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STORIES OF IMAGINATION

PART I OF II

THE COSMIC RELIC

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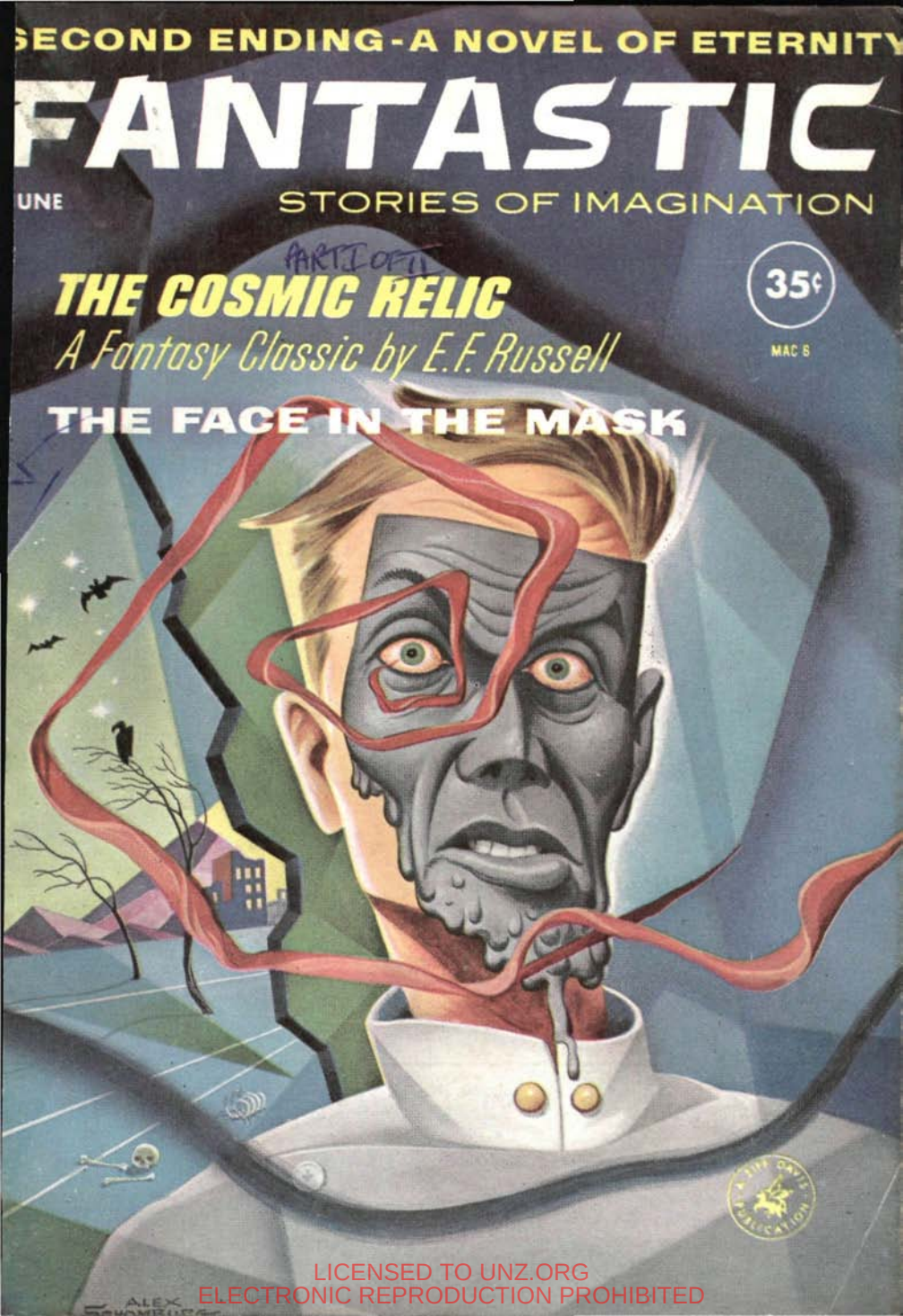

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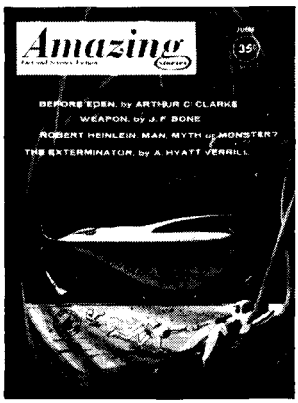
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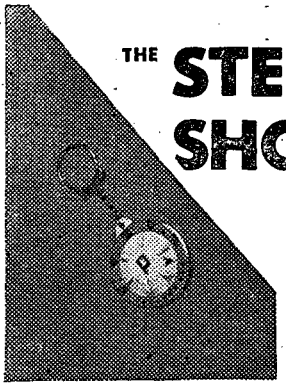

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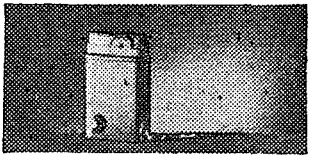

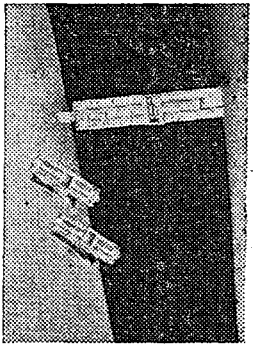

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FANTASTIC
STORIES OF IMAGINATION

JUNE 1961
Volume 10 Number 6

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Publisher
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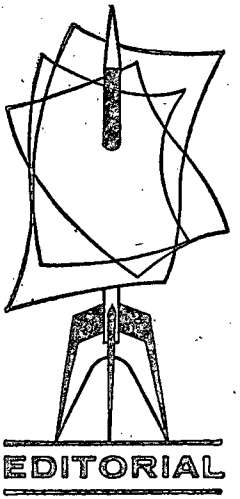

IT IS not often an editor finds a usable story in the "slush pile"—that mass of unsolicited manuscripts which pours in over the transom every day. It's a great moment when we find an exciting new writer or story. But it is even less frequent that one finds not only a usable story in the slush—but one that makes you feel as if it is a stand-out story, one that may possibly live for a long time.

Such a story, we are proud to say, appears in this issue. It is "The Face in the Mask," on P. 54. We wrote to the author, Estelle Frye, as soon as we had read it, to find out what had motivated her do to this piece. Here is what she answered:

"What I am trying to do in science fiction is write stories in which the real world and its people are only slightly distorted—as if one looked through a wavy glass or regarded oneself in a cracked mirror. The focus is hardly changed and yet what a difference in perspective! My man in the mask evolved from such a moment in a stationery store: I reeled before the racks of greeting cards. It seemed that every conceivable relationship, every possible emotion had been anticipated by the manufacturers of these bits of cardboard. As the story developed, in place of masks of conformity and politeness, my people wore plastic masks. Instead of speaking, they carried briefcases of cards. They moved through a world of painted scenery."

We're hoping for more from Estelle Frye soon.

* * * *

Find it hard to get up in the morning? Or are you the other kind of sufferer—the fellow who can't get to sleep at night? Or both? Whichever you are, we think you'll be as fascinated as we were at the newspaper reports about Valentin Poves, a 61-year-old farmer in the village of La Gineta, Spain. Senor Poves' claim to fame is that he is a "total insomniac" who is never tired.

When Poves' announced that he had never slept a wink in his entire life, doctors rushed to test him. In one experiment the farmer wandered about for 48 hours, eating, working, drinking good red wine, chatting with reporters—and never even once yawning, much less catching forty winks.

(*continued on page 79*)

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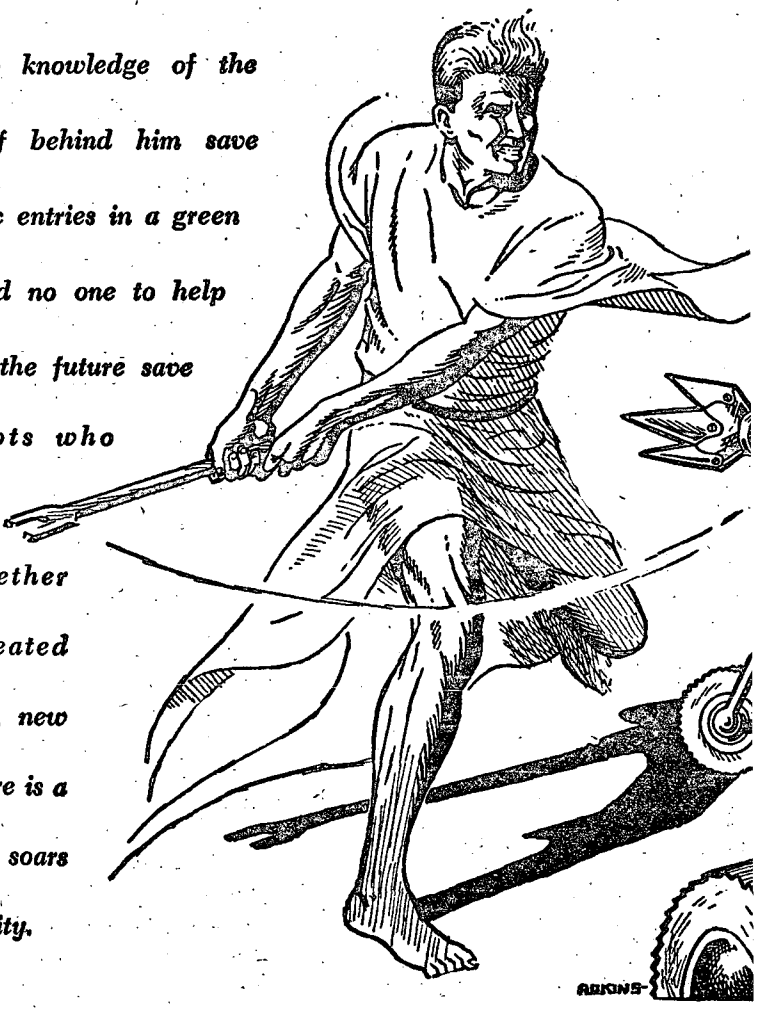
SECOND ENDING

(First of two parts)

By JAMES WHITE

Illustrator ADKINS

Ross was all alone on Earth —with no knowledge of the black gulf behind him save the cryptic entries in a green folder, and no one to help him face the future save the robots who loved him. Yet together they created new time, new space. Here is a novel that soars into eternity.



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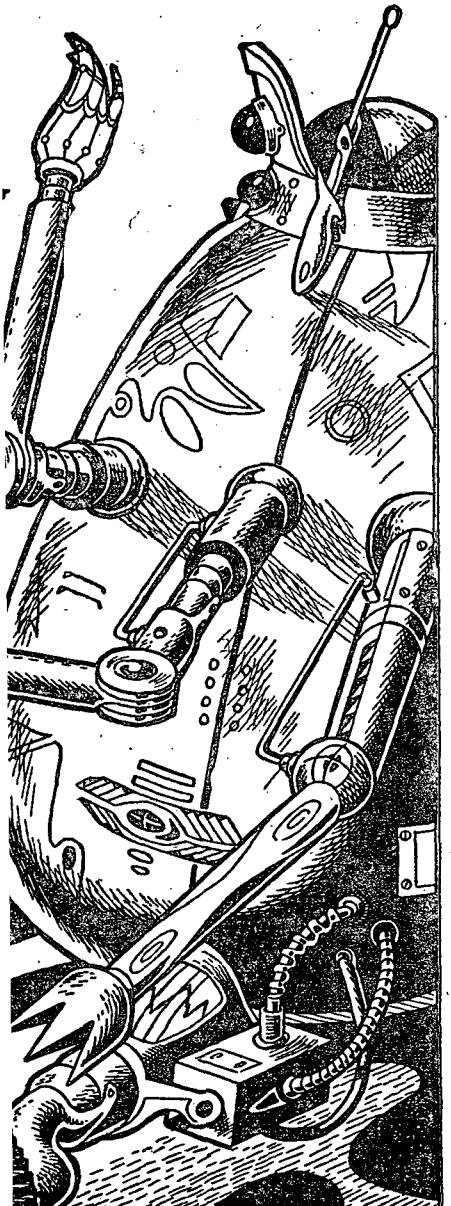

CHAPTER 1

FOR Ross the process of awakening was a slow thaw. Gradually there was growing within his mind a spot of warmth, melting and clearing the long-unused channels of memory and perception. For a time he knew only that he was somebody and that it was very cold, and then he began to remember other cold awakenings and the nightmares which followed them. He tried to tell himself that this was all wrong, that nightmares preceded awakening and not the other way around, but his memory insisted otherwise. It insisted so strongly that Ross, had such a reaction been physically possible, would have broken into a sweat of fear. Eventually sound and vision came to him, the icy fog of Deep Sleep cleared and he saw Beethoven.

Someone had given Beethoven's hair a coat of black enamel, painted the face with a realistic flesh tint and touched in the eyes with blue, but it was still the same bust which had occupied a place of honor in Pellew's consulting room. That someone, Ross knew, was in for trouble, because Dr. Pellew was not a man who took kindly to practical jokes. All at once that line of thought became a very comforting one for Ross, because it opened up the possibility that the

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nightmares had been practical jokes also. He seemed to remember that there had been quite a few jokers in this place, especially on the Thirty-first Level. But why such a needlessly cruel trick, and why had they picked him? Who, exactly, were *they?* What was this place, what was he doing here, who was Pellew . . ?

Ross didn't know, exactly. His mental processes were quickening, but he was demanding answers from a memory which was still woefully incomplete. He sighed audibly, and suddenly Beethoven was talking to him.

"When the patient has recovered consciousness," Beethoven said in a dry, lecturing voice which was remarkably like that of Dr. Pellew, "It is important that he make no sudden movements, which at this stage could result in severe muscular damage. He, or she, must be urged to move *gently.* The patient should also be assured, as often as seems necessary considering his emotional state, that he has been cured he has been cured he has been cured he has been cured . . ."

Like a record with a faulty groove, the same words droned out over and over and over. Ross stuck it for as long as he could, which was about six minutes, then he croaked, "Shut up, I believe you!"

The voice ceased. Ross became aware of a steadily mounting pressure at the back of his head and shoulders. Chest, neck and leg muscles cracked painfully, and he realized that his posture was altering. The padded surface on which he lay had broken in two places. It was swinging upward from a point below his waist and falling away at the level of his knees. He was being forced from a supine into a sitting position. The process was slow and was probably meant to be gentle. Ross would have yelled in sheer agony, if he had not known that filling his lungs for the yell would have expanded his chest muscles suddenly and added to the pain. Finally he was sitting upright, held by a strap around his middle. He *felt* the strap, because his eyes showed little more than drifting patches of blackness. Strain as he might to see more, for the moment the blackness continued to prevail. The voice began again:

"With long-term patients there will be psychological difficulties as well," the bust said through its motionless, painted lips. "He is awakening into an environment which is completely strange, and perhaps frightening, to him. Someone with an understanding of his background should be present, and the shock can be lessened by surrounding him with his more valuable personal possessions . . ."

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ROSS blinked until the black patches faded from sight. He was in a small room which contained, in addition to the contraption he was sitting in, a bed, some recessed cupboards and a floor which was neatly paved with what looked like foam-rubber mattresses. Close by was an instrument trolley containing the talking bust of Beethoven, three shiny cans and his wallet, opened to show the picture of Alice.

". . . At the same time the patient must take nourishment and exercise his muscles as soon as possible after revivication. The method recommended is to raise him into a sitting position, massage, administer a light, liquid meal liquid meal liquid meal liquid meal . . ."

"Oh, for Heaven's sake!" Ross groaned, and reached out carefully for one of the food containers. This, he thought, was the most intricate and senseless joke he had ever heard of. He did not feel hungry, but doing what he was told seemed to be the only way of shutting off that maddening, repetitious voice.

The can warmed up as soon as he lifted it and the top flipped back, spilling some of the stuff onto his bare legs. He swore, sniffed, then began to wonder if perhaps he wasn't hungry after all. The stuff tasted every bit as good as it smelled, and it warmed him right down to his toes. But when he had emptied the can Beethoven continued to drone "Liquid meal liquid meal" at him. Presumably he was expected to empty all three.

The second can exploded in his face.

Several things happened at once. He jerked backwards instinctively as the hot, foul-smelling liquid sprayed his face and chest. The sudden movement triggered off a cramp which nearly tied him in knots, and he began slipping towards the floor. The retaining strap took his weight for a moment, then it parted with a soft tearing sound and he collapsed onto the floor.

That drop of perhaps three feet onto a thickly padded surface brought a shock of pain worse than anything he had ever experienced. It also brought him finally and fully awake.

Up to now Ross had been treating everything which was happening as some sort of involved practical joke which was being played on him, both angered at the cruelty of it and relieved that he had not awakened to the nightmare of being crushed to death in a tubular metal cage which ticked. From his new position he could see a small extension speaker unit attached to the back of Beethoven's head, and a cable which ran from it across the floor and out through a hole in the wall. This *could* have been

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the sort of joke that his fellow students might have played on him—involving stink-bombs, a talking bust and an edited playback of one of Pellew's lectures—but for one thing, the tape had lead him to believe that he was cured. No one in the hospital would joke about that.

And if it wasn't a joke . . .

CHAPTER 2

THE First Atomic War had occurred fifty years before Ross had been born. It had started because of malfunctioning of some early warning equipment and raged for three weeks before the mistake was realized and all parties agreed to the cease fire. Had it continued for another three weeks the world would have undoubtedly been depopulated completely, but as it was one out of every ten people survived. Far from causing the collapse of civilization, the war seemed to give it an explosive boot in the pants. Scientific advances came thick and fast; because there were no longer multitudes to be thrown out of work, industry became fully automated, and the world seemed well on the way to becoming a Utopia—except for the nervous tendency for people to build deep instead of high. Possibly because there was still a lot of distrust about, and possibly through sheer force of habit, improvements in nuclear weapons were keeping pace with everything else.

Like everyone else Ross had been cynical and uncaring about the war. He had never known an overcrowded Earth, and was rather glad he had not been born into such a period. He enjoyed having twenty-one hours of leisure in the twenty-four. But then had come the realization, when he was still in his early 'teens, that the long-term effects of the war were still horribly evident. The incidence of male and female sterility had passed the forty percent mark and was still climbing, too few children were being born, and if the trend could not be checked the effect would be exactly the same as if the war had not been stopped.

All at once human life became a rare and precious thing, and promised to become rarer and more precious as time went on. No effort or expense was too great to save, extend or propagate a human life. No case was ever considered hopeless. If a patient could not be cured there and then, well, in the next decade the researchers were bound to come up with the answer, or perhaps in the decade after that. In the meantime the patient was put into suspended animation. They would develop a cure eventually and while there was life there was hope.

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So Ross had applied to train as a doctor in one of the "incurables" hospitals. As well as his basic studies he had specialized in the techniques of what the purists called hibernation anaesthesia and the patients called Deep Sleep, when they both weren't calling it suspended animation. Then in his fifth year, at the age of twenty-two, it was discovered that he had a rare lukeamic condition—one on which very little research had been done. He had been told that owing to the fact that he was not likely to be awakened for some time, they would be putting him at the bottom of the heap.

As was customary with long-term patients, Dr. Pellew supervised the freezing personally. And now it seemed to be only hours ago since the old boy murmured, "Good-night, young man, and good luck," in a tone of voice which Ross had never before heard him use to a student, and had administered the shot which kept the patient from feeling the gradually increasing cold.

But it had been more than a matter of hours, obviously.

Ross was thinking of the food container which must have been improperly sealed and whose contents had gone off in both senses of the word. And of the thick retaining strap which had come apart like so much dry putty. An awful lot of time must have passed. Now that he thought back on it, even the recorded voice of Dr. Pellew had sounded older and more tired. But none of those things were important. Neither was the fact that his body was only a little fatter than a demonstration skeleton, or that every square inch of it ached.

He was *cured* . . !

CAREFULLY, Ross pushed himself onto his hands and knees and began crawling slowly around the room. His cheek muscles ached because he could not keep himself from grinning, and if he had had the breath for it he would probably have been singing at the top of his voice. A period of sustained, gentle exercise was the next step, and although it was odd that the physiotherapist hadn't arrived, Ross did not mind taking it the hard way. He continued to crawl across soft sponge-rubber, feeling the stiffness leave his muscles, smiling and occasionally laughing out loud. He tried not to think about Alice, or the fact that she was probably in her fifties by now and that a very awkward and painful situation would arise between them in the near future. He did not want any hint of sadness to spoil the moment in which he knew that he was no longer under sentence of death.

Eventually he was able to stand upright, with one hand

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steadying himself, against the wall. He opened the locker which contained his clothing, and was met by a blast of cold air which made his eyes water. Moisture began condensing on everything inside the locker, and Ross decided wryly that there was no point in catching pneumonia through wearing damp clothing after all that had been done to keep him alive. He left the locker door wide open so that the room heaters would dry them. It wasn't that he was a prude, Ross told himself, but his blotchy, emaciated body looked horrible even to him. The sooner it was covered the better. Alice might come in.

Ross walked unsteadily to the bed and sat down. He was beginning to feel hurt by the lack of attention being shown him. Someone should have been around to welcome him back to the land of the living or to say a few words of congratulation—or to check on his condition, at least. There should have been a physician supervising the revivification, a couple of nurses or physiotherapists to walk him about before putting him to bed, and a psychiatrist to cushion him against the mental shocks of awakening. That was how things had been done in his time.

Instead there was a painted, bronze bust, a disjointed lecture tape played through a loudspeaker and rubber mattresses scattered about the floor to keep him from hurting himself. Ross was suddenly afraid. There must be a shortage of staff, he thought.

An acute shortage of staff.

Ross found himself standing with his hand on the doorknob, not remembering how he had got there but knowing by the way that his legs ached that he had moved too fast. The door slid open easily and he stumbled outside. Immediately he knew that he was in a section of the hospital which he had not seen before, perhaps an extension built after he had gone into Deep Sleep. It was a short, brightly-lit and spotlessly clean corridor with three doors opening off each side. A few yards to his right the corridor came to a dead end and in the opposite direction it terminated in a semi-transparent door which gave the suggestion of a sloping ramp on the other side of it. Just inside the door stood a small desk and chair. There was a pale green folder lying on the desk, there was nobody in the chair.

Propping himself against the wall, Ross moved around to the door facing his own and slid it open. It was dark inside, but light from the corridor showed a stripped bed, locker doors standing open and an empty Deep Sleep casket. He closed it and began a stumbling zig-zag along the corridor, trying all the doors.

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Every room was dark and empty, but looked as if they had been regularly cleaned—he tested some of the furniture with his fingers. There was a cleaning staff then, as well as the people responsible for rigging the crazy equipment in his room. It was high time somebody put in an appearance, Ross thought as he moved towards the desk to sit down.

And began to laugh gently to himself because the green folder lying on the desk had his name on it.

SINCE his revivication Ross had both fed and exercised himself without assistance, and now it looked as though he was expected to handle his own re-orientation problems as well. Abruptly he stopped laughing, when he realized that there was nothing at all to laugh at in the situation. Ross split the folder's all-round seal with a fingernail—his nails had grown very long despite the fact that *all* body processes were supposed to be halted by suspended animation—and went through the contents quickly. There were seven of the green 508 forms— the type used for hibernation anesthesia patients—and about ten sheets of various sizes which looked like inter-departmental memos. Ross went back to the beginning and began to read.

The first green form was familiar to him—Ross had been present when it had been filled in. It was dated 29th September, 2017 and gave his name and the details of the condition which required him going into Deep Sleep. It was signed by Dr. Pellow and his assistant. The next one was similarly signed, was dated 4th June, 2036 and stated that the patient had been revived but kept under complete sedation for three weeks while a new treatment was tested. It was unsuccessful. The third form was dated 1st May, 2093 and was signed by a Dr. Hanson. On this occasion he was revived but unconscious for six weeks while a complex treatment involving micro-injections of his bone marrow was tried, again unsuccessfully. His eyes went back to the date, *1st May, 2093!*

The problem of Alice was solved, he thought numbly, by simple mathematics. 2017 from 2093 was seventy-eight years, and Alice had been twenty-two. His eyes began to sting and Ross hurriedly changed to a less emotionally loaded train of thought. The notes on his chart showed that medical science had left him far behind; relatively, his training was as outdated as bread poultices and blood-letting. And the growth of his fingernails was explained by the periods during which he had been revived but

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unconscious. He blinked a couple of times, then turned to the next form.

It was dated 17th May, 2233.

Ross could not believe it at first. He suspected a misprint or a new system of dating, until he began to read the notes of the Physician-in-Charge. They ran to around three hundred neat, closely written words which detailed a treatment so complex that Ross could only guess at what it had entailed. As before he had been revived but kept under sedation. *Something* had been done to him—whether it was something injected or attached or surgically implanted he couldn't tell—which had brought about a long-term cure, because the notes ended with a terse, "Treatment successful, to be revived permanently in 75 years from this day."

And it was signed by Dr. Pellow and a Sister. At least the assistant's space had been rubber-stamped "Ward Sister 5B" but she had forgotten to add her initials.

Ross shook his head in weary confusion. It *couldn't* be Pellew's signature, not after two hundred and sixteen years. It must be a coincidence, he thought, or maybe a great-grandson. Yet he had heard Pellew's voice—his taped voice, rather—during his awakening. Would a tape recording keep for two hundred years? Ross wasn't sure, but it might. But then there was that signature . . .

The next green form, dated 17th May, 2038, was stamped "Revivication halted: re-processed" and at the bottom by the Ward Sister of 5B, who was apparently either too busy or too well-known to have to add her initials. There was no doctor's signature. The next sheet was practically a carbon copy, except for the date which was four months later, and the last one bore the date 7th October, 2308 and was stamped "Patient Awakened."

Now I know the date, Ross thought a little wildly: *if I had the right time I could set my watch . . !*

CHAPTER 3

ALL at once Ross felt so unutterably weary that he wanted to lie on the floor and sleep. For a patient just out of deep sleep he had been behaving stupidly indeed. Instead of a few minutes gentle exercise he had been stumbling about the corridor and sitting on an uncomfortable chair, of the kind designed to keep Night Sisters awake, for the best part of an hour. It was high time he got into bed. Perhaps his brain would be able to make something out of the confused mass of data, after he got some sleep.

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Five minutes later Ross was between the sheets, which turned out to be of fine, woven plastic. Their only sign of age was a tendency toward yellow in places. He tried to sleep but his curiosity kept him awake. The green folder, which he had brought along and hidden under his pillow, lay a few inches from his hand. In those unread pages he might find the answer to everything or he might be thrown into worse confusion. He was *sure* that the contents of the folder would do nothing to increase his peace of mind. But Ross was beginning to be afraid again and he wanted to do everything possible to find out exactly what he feared.

Groaning, he levered himself to one elbow, drew out the folder and began to read.

Immediately following the 508s which he had already studied there was a two-page instructional circular dealing with the transfer of staff to the extension of the five mile level. This would be devoted to the study of non-sterile mutations. Two Doctors and four Sisters were listed by name and there was a note stating that owing to the shortage of staff the cleaners would also serve as Nursing Orderlies and be allowed to administer simple courses of treatment without supervision. Dated March, 2062, the circular was signed by Dr. Pellew.

The next five sheets dealt primarily with the reorganization due to the shortage of staff and covered a period of about twenty years. Apparently some of the wards were then operating with just a Sister and two Cleaners. In addition to the cleaning and maintenance work, these people who had once been considered the lowliest members of the staff were being given increasingly responsible duties with regard to the patients. They had become Cleaners with a capital C, like Doctors and Sisters.

Ross's mind was bursting with questions. He turned quickly to the next page, hoping that the answers to some of them might be there.

Two short paragraphs, in bold type and underlined, practically shouted up at him.

During the Emergency all sections shall be rendered self-contained and self sufficient. Transfer of staff, food, medical supplies and servo-mechanisms is forbidden. Penalty for contravening this regulation, regardless of circumstances, is exclusion from the home section. Contact between sections shall be by intercommunication phone only.

All Deep Sleep patients with a favorable prognosis shall be transferred immediately to the Non-sterile Mutations section. Patients to be transferred are

• • •

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A list of case numbers followed, Ross's being one of them.

So there had been an Emergency. Ross didn't like the sound of that at all. His hand was shaking with more than fatigue when he turned that page over.

There followed four closely-typed pages which were the minutes of a meeting held by all the medical staff of the section, dated 6th July, 2071, Dr. Hanson presiding. Under discussion were the new techniques for treating patients while actually in the Deep Sleep state. The only drawback was that the new treatment required many decades to effect a cure, and with the exception of Dr. Hanson who had been born in the section, all the doctors were men in their sixties. They were therefore faced with the problem of reviving nearly thirty Deep Sleep patients in fifty-odd years from now, at which time they themselves would have long since been dead.

The only possible answer was for the doctors to go into suspended animation also until the time when their patients were due to be revived. However, at least one doctor would have to remain awake to supervise and to continue with some of the more promising lines of research which, if they were lucky, might result in cures for all of their suspended patients. A time-table of twenty years asleep and two awake was suggested, with a three month overlap to allow the newly awakened doctor to take over the reins. Being the youngest of the group Dr. Hanson asked that his waking term be extended to five years as he was working on a line which might produce a cure for the heart condition which had forced their previous Director to undergo suspended animation. They must agree that if Dr. Pellew could be cured and revived, his help would be invaluable.

Mention was made of the psychological dangers present in the scheme, and methods suggested for guarding against them, and the report ended with discussion of the staff problem. It was decided to give Cleaners more responsibility and allow the Ward Sisters the right to diagnose, treat and perform limited surgery.

STARING unseeingly at the page, which was the last one, Ross thought, *And so endeth the first lesson.* For that was what it had been. Unbalanced, overshort, composed of medical charts and instructional circulars, but withal a history lesson designed to help him fit into a strange present.

Something caught in his throat as he thought of those wonderful old men, forced by their short life expectancy to

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spread out their remaining years to carry the torch of their knowledge across two centuries, in a relay race against time. And young Hanson *had* been successful, because the circular was dated 2071 and Dr. Pellew had signed one of his 508 forms in 2233.

Suddenly he began to feel the stirrings of hope. A wild, exciting and purely selfish hope. The record had made no reference to nursing staff, but presumably they would have had to go into Deep Sleep also. Suppose one of them was Alice . . .

The lights went out.

His brain froze in mid thought and the cold sweat broke on his forehead, hands and at the small of his back. Without knowing why exactly, Ross was terrified. In vain he tried to tell himself that the lights had gone out to let him sleep, that there was nothing frightening about that. But this darkness was absolute, a negation of light which was possible only when all power has gone five miles underground. Ross had left his room door open in the hope that anyone passing would notice and maybe call in; it was just as dark in the corridor. The folder slid to the floor and he lay motionless, his heart banging deafeningly in his ears and teeth jammed together to keep them from chattering.

Then above the relative din of his racing pulse he heard movements from the corridor outside.

It was a soft, regular, thumping sound accompanied by a gentle sighing. Outside his door it stopped, briefly, then grew louder as it entered his room. Ross strained his eyes desperately into the blackness, trying to give shape and substance to the blotchy retinal images which slid about in the darkness. The faint sighing and thumping seemed to be moving about the center of the room, and he could hear some small objects being lifted or laid down, quietly. The sounds were quiet but, somehow, not stealthy. Whoever was making them knew what he was doing, and could see very well in the dark. Undoubtedly they could see *him*. Any second now they would come over to his bed . . .

"Who . . who's there?" said Ross.

"Ward Sister," replied a voice out of the blackness, a pleasant, impersonal and unmistakably feminine voice. "You are doing fine, Mr. Ross. Now go to sleep."

The sounds moved towards the door without approaching his bed and began to fade along the corridor. The door leading onto the ramp slid open and closed, and a few seconds later the lights blinded him.

ROSS lay back and shielded his eyes until they became used

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to the lights again. Four self-heating food containers had been placed beside Beethoven, but otherwise nothing had changed in the room. He pulled the sheets up to his chin and relaxed for the first time since his revivication. Weariness made his mind work slowly, but the mental processes were clear and logical. At last he was beginning to make sense out of the mad puzzle facing him, and the Sister who had visited him in complete darkness was the key incident, he thought.

Beethoven, his case history, a Sister who could see extremely well in pitch blackness . . .

The most urgent problem when Ross had gone into Deep Sleep had been the sharply declining birth-rate, and according to the contents of the folder the problem had worsened steadily. Staff shortage was mentioned on every page. Human life had become a rare and precious thing—so rare, perhaps, and so very precious, that the meaning of the word had widened somewhat. *Devoted to the study of non-sterile mutations* . . . Ross thought. That might explain Sister's extraordinary eyesight, and her visit under a cloak of darkness. They didn't want to shock him, possibly risk driving him insane, by confronting him too suddenly with what the human race had become. That had to be the answer. They were breaking it to him gently, giving information by indirect means, even to the extent of supervising his revivication at a distance.

Ross thought that he was prepared for the shocks now. He probably wouldn't like them, but he wouldn't be terrified or disgusted by them. And if things got tough he could always console himself with the reminder that there were a few real, old-time human beings still in suspended animation. One of them might even be Alice.

The one piece of the puzzle which did not fit his theory was the nightmares. There had been two of them, almost identical, and he still had the conviction that they had occurred *after*, or at least during, the process of awakening. Thick metal bars pressing down on his head, chest, abdomen and legs. Others crushing his arms into his sides, jamming his legs together, threatening to squeeze in the sides of his skull. Fighting to escape that vicious, inexorable pressure, struggling desperately to see, to move, to breathe. But he could not see, he could only feel and hear; the savage construction of uncaring metal, and an irregular ticking sound . . .

Until that gap in the picture was filled, Ross thought, he would feel very uncomfortable about going to sleep. He was uneasily wondering who had intro-

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duced an Iron Maiden into the hospital when sleep sneaked up on him.

CHAPTER 4

ROSS awoke hungry. His first act was to remedy that condition, and he was lucky in that only one of the four food containers had spoiled. While the air-conditioner was dispering the stench of two hundred-year-old soup, he moved across to his clothes locker and began to dress. His next action must be to go out and find somebody, the Doctor-in-Charge, Sister, anybody, and while the sight of his unclothed body was unlikely to shock any member of the hospital staff, having a few clothes around him would boost his morale considerably.

He hadn't realized just how few clothes that would be.

His socks and underwear fell apart when he tried to get into them, his blouse had gone brittle and cracked when he forced his head into it, and the elastication in his shoes had ceased to be. The slacks were in good condition—they were all wool and had been rather an extravagance in a day of largely synthetic clothing—but his belt came to pieces in his hands. And his hips had shrunk so much that they refused to hold them up. Ross swore, feeling ridiculous.

One of the other lockers contained the woven plastic sheets, he discovered after a brief search. He opened out one of them and began to work at the middle of it with his teeth until he had a hole that he could get his fingers into. The stuff wasn't easy to tear. When the hole was big enough he put his head through it and let the sheet fall down around his shoulders. It came almost to his knees. Working his arms free he tore one of the pillow coverings into strips, tied one around his waist and made two others into figure 8 bandages which held the shoes onto his feet. In the locker mirror the effect wasn't too bad, he thought, but it needed something. A turban, maybe, or a chaplet of laurel leaves?

Ross made a face at himself, snarled "You look horrible in white," and headed for the corridor.

This time he was able to walk without holding onto the wall. But when he began to ascend the ramp at the end of the corridor, dizziness overtook him and he began to grey out. He realized that he must still be terribly weak and that if he was going to get anywhere at all he would have to take it in easy stages. Climbing slowly, sometimes on hands and knees, Ross ascended to the next level.

He found himself in a long,

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brightly lit corridor with a T-junction at the other end. Everything in sight was shining, aseptically clean. *Matron must be the strict type,* he thought, and hoped that he did not encounter her first. But there were no signs of life or movement about and the only sound was that of his own breathing. Ross moved forward and began trying doors.

By the time he reached the intersection he was both bewildered and uneasy. Many of the doors had opened into small wards and rooms like his own. There could have been a good reason for them being dark and unoccupied, but some of them *should* have contained members of the staff, or at least shown signs of recent use. The diet kitchens, for instance, the power rooms, or the Sisters' and Cleaners' quarters. Those living quarters bothered Ross. He could not say for sure because he had been seeing only by reflected light from the corridor, but those rooms had seemed to be large, featureless boxes which were completely devoid of furniture, fittings or personal decoration. Yet everything he saw was so *clean.* Somebody was responsible for the spotless condition of the place, but who and where? The whole thing was ridiculous!

Maybe they were playing hide and seek, Ross thought wildly; if so, he was getting tired of the game, tired of being "it" . . .

"Come out, come out!" Ross yelled at the top of his voice, "Wherever you are . . .!"

THEY came out.

They were long cylindrical objects mounted on four padded wheels, possessing at least ten thick, multi-jointed metal arms and various other projections of unknown function. As they rolled steadily towards him, Ross knew with a terrible certainty that what he was seeing was his nightmare—multiplied by twenty. There was almost a score of the things coming at him from the left-hand fork of the corridor. The lights gleamed off their shiny metal sides and folded arms. He could see that each had a double lens arrangement mounted vertically atop a short, headless neck. The upper lens rotated slowly, the lower was directed forwards. They advanced without a sound. Ross wanted to run, but his brain seemed to have gotten its signals crossed. All he could do was tremble and sweat, until . . .

"Our previous instructions were to conceal ourselves until after you had spent some time in Dr. Pellew's room," said a quiet, female voice behind him, "and we were warned that to do otherwise might result in severe psychological disturbance to yourself.

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The wording of your last order, however, is such that it overrides our previous instructions."

Ross turned around, slowly. The thing behind him was a large, erect ovoid mounted on three wheels and surmounted by one fixed and one swivelling eyepiece. There were no arms but the smooth, egg-like body showed the outlines of several panels which might open to reveal anything. Clamped to one of the wheel struts was a large square box with a cable running from it to the main body. It gave the impression of being stuck on as an afterthought. One of its wheels had a worn tread which emitted a faint, sighing sound as it moved towards him. Ross thought of dodging around it and running—or trying to run, he felt almost too weak to stand now—for the ramp, but behind the egg there were more cylinders coming fast.

With his head jerking from side to side Ross watched them roll up to within a yard of him and stop. The rotating lenses turned slowly, the stationary ones were fixed on him.

After several unsuccessful tries Ross made his tongue work. He said, "What . . . what *is* all this?"

The cylinders began to tick like runaway clocks and then the egg spoke again. It said, "The question, requiring as it does complete and detailed knowledge of astronomy, anthropology, cybernetics, evolution, mass psychology, metallurgy, medicine, nuclear physics as well as other sciences about which I have no data, is beyond the scope of an electronic brain. For your information, sir, when asking questions or giving orders to a robot the wording must be detailed and non-ambiguous."

So they were only robots who could answer questions—simple questions—and obey orders. Ross began to relax. His first thought was to tell them all to get to blazes out of his sight, but then he decided that that, also, might be too confusing for them. He considered for a moment, then said timidly, "Go back to whatever you were doing before I called you."

They all began to move away, including the egg-shaped one. Ross called, "Not you. Wait. Your voice is familiar, are you the one who came into my room last night?"

"Yes, sir."

"But I'd thought . . . the mutations . . ." Ross stammered. "What happened to the mutants?"

"They are dead, sir. The research was discontinued before I was programmed."

ROSS shook his head. He had been expecting mutants and

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had found robots instead. In a way he ought to have expected something like this, because the trend had been well-developed even in his time. Full-scale automation spreading from the factories into the homes, guardian-robots for small children, there had even been talk of a robot barber. But in his wildest moments Ross would never have thought of them turning one loose in a hospital. Ross had to check an urge to revise his picture of what had happened while he was in Deep Sleep, because the revision would be based on incomplete data and would probably be as wide of the truth as the last one. Horrible mutations working under a cloak of darkness, indeed! He decided not to jump to any conclusions at all until he had been to Dr. Pellew's quarters.

Matching pace with Ross's weary shuffle the robot led him through a series of short corridors, up another ramp for two levels, then into what appeared to be the administraton and maintenance section. Ross was feeling quite pleased with himself. He had had a horde of robots sprung on him without warning only minutes ago, and now he was talking to one of them, almost naturally. Such powers of adaptability, he thought, were something to be proud of.

He kept the conversation simple, of course, and confined mainly to short, direct questions regarding the rooms or machinery they passed. To some of the simple questions the robot gave concise and detailed answers, and occasionally he received a reply of, "I'm sorry, sir, I have not been programmed with data on this subject . . ."

At one point Ross broke off to ask, "Why do you keep calling me 'sir' when you know my name?"

The robot ticked quietly to itself for a few seconds, and Ross went over the question again in his mind to see if it might sound ambiguous. It didn't, so he repeated the question aloud.

The ticking slowed and stopped. "A Ward Sister of my type has two choices of behavior towards human beings," the robot said in its pleasant, feminine voice. "Towards patients we are friendly but authoritive, because we are better qualified to know what will and will not benefit them, and surnames prefixed by 'Mr.' are used. When a human being is mobile and shows no marked signs of physical malfunction we treat him as our superior. The choice was difficult in your case."

"Between a mobile Boss and a bedridden patient," said Ross drily, "and I was a mobile patient."

"As my superior," the robot

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went on, "you are not required to give reasons for your misuse and damaging of ward bed linen."

Ross began to laugh softly. Sisters were all the same, he thought, even the mechanical ones were inclined to fuss. He was still laughing when they reached Dr. Pellew's room.

It was much smaller than the quarters Pellew had once occupied, but it contained the same chairs, desk and bookcase. The only items missing were Beethoven and the thin, irascible person of Pellew himself. A heavy ledger lay exactly centered on the desk with an empty ashtray on one side and an adjustable calender on the other. Pellew had been a notoriously untidy man, Ross knew, so this uncharacteristic neatness must be due to the cleaning robots while Pellew was in Deep Sleep. Knowing that the Doctor was not in a position to object, Ross sat at the desk and opened the ledger.

It was a diary, more than half-filled with Pellew's odd, backward-leaning scrawl.

Before he settled down to reading it, the caution of a lowly student who was making free with his superior's holy of holies prompted a question.

"Who is the Doctor-in-Charge at the moment?" Ross asked. "Who's awake, I mean?"

"You, sir," said the robot.

"Me! But . . ."

He had been about to say that he wasn't qualified, that another two years of study would elapse before, if he was lucky, he could tack Dr. in front of his name. But there was a staff shortage, so much so that they must have been forced to awaken students to fill in for qualified doctors. The ledger would probably tell him why.

"Have you any instructions, sir?" said the robot.

Ross tried to think like a Doctor-in-Charge. He hemmed a couple of times, then said, "Regarding the patients, none at present. But I'm hungry, will you get me something to eat?"

The robot ticked at him.

"I want food," said Ross, making it simple and non-ambiguous. The robot left.

CHAPTER 5

THE first six pages of the diary were heavy going, not only because they dealt mainly with details of administration in Pellew's almost unreadable writing, but because they were dated only a few months after Ross had gone into Deep Sleep and so contained no information likely to help in his present situation. He began cheating a little, skipping five, seven, twenty pages ahead.

He read: *Communications ceased with Section F two hours ago and we have not been able to*

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raise the others for over a week. For purposes of morale I have suggested that this may be due to broken lines caused by the earth-tremors, which have been felt even down here. I have ordered the maintenance robots to slot heavy metal girders across the elevator shaft so as to make it impossible for anyone to take the cage up. There are still a few short-sighted, quixotic fools who want to form a rescue party . . .

Ross remembered an instructional circular from last night which had begun, "*During the Emergency . . .*" Apparently this part of the diary dealt with that emergency, but he had skipped too far ahead. He was turning the pages back slowly when the robot arrived with six food cans.

He opened one and set it on the empty ashtray so as not to mark Pellew's desk. When he went back to the ledger the large, stiff pages had risen up and rolled past his place. Ross inserted his finger and flattened a page at random. It said:,

I took Courtland out of hibernation last week. In his present condition he will live only a few months so I have as good as killed him. The fact that he has told me several times that he doesn't mind only makes me feel worse—his bravery pointing up my cowardice. But I need help, and he was one of the best cyberneticists of his time. He is working on a modification of our Mark 5 Ward Sisters for me.

I wanted a robot with judgment and initiative and the Mark 5B seems to have those qualities. Courtland insists that it hasn't, that he has merely increased its data storage capacity, increased its ability to cross-index this memory data, and made some other changes which I can't begin to understand. It does NOT have a sense of humor, but only gives this impression because it takes everything it is told literally. Despite all he says Courtland is very proud of this new robot—he calls it Bea—and says that if he had proper facilities, or even a few more months of life, he could do great things.

I think he has done great things already. If only Ross can carry on. It will be his problem soon.

Ross felt his scalp begin to prickle. Seeing his own name staring up at him had been a shock, but what was the problem mentioned?

"How long since you talked to Dr. Pellew?" he asked the robot suddenly.

"Twenty-three years and fifteen days, sir."

"Oh, as long ago as that. When is he due to be awakened?"

The robot began to tick.

"That is a simple question . . .!" began Ross angrily, then stopped. Maybe it wasn't a sim-

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ple question, maybe . . . "Is Pellew dead?"

"Yes, sir."

Ross swallowed. He said, "How many, both patients and staff, are left?"

"One, sir. You."

He had been hungry and had meant to eat. Ross began spooning the contents of the food can into his mouth, trying to pretend that it had not happened. Or maybe these were the blind involuntary movements of a body which has died and does not yet realize it. Pellew was dead, Alice was dead, Hanson, everyone. Claustrophobia was something which normally had not bothered Ross, but now suddenly he wanted out. Everyone he knew—and so far as his mind was concerned he had known and spoken to them only two days ago—was dead and buried, most of them for hundreds of years. The hospital had become a vast, shining tomb staffed by metal ghouls, and he was buried in it. He was suddenly conscious of five miles of earth pressing down on him. But he was alive! *He wanted out* . . . !

Ross did not realize that he had been shouting until the robot said, "Dr. Pellew told me that you might behave in a non-logical manner at this time. He said to tell you that the future of the human race might depend on what you do in the next few years, and not to do anything stupid in the first few hours."

"How can I get out?" said Ross savagely.

A human being would have avoided the question or simply refused to reply, but the Ward Sister was a robot and had no choice in the matter. Even so, while it was giving the information requested it managed to insert a truly fantastic number of objections to his not going. The elevator shaft was blocked, there was danger of contamination and the robot's basic programming forbade it to allow Ross to endanger himself . . .

"Do you know what going mad is?" said Ross in a voice he didn't recognize as his own. "Have you had experience of mental instability in humans?"

"Yes, sir."

"Is it against your programming to force me, by your inaction, into that state?"

"Yes, sir."

"Then get me to the surface!"

It took three hours.

THE Ward Sister ticked a lot and generally got into the nearest approach that a machine could manage to a tizzy. Clearing the elevator shafts—there were five altogteher—required the help of heavy maintenance robots and these had been put into a state of low alert two centuries ago and would respond only to

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direct orders from a human being. But they weren't nearly so bright as the Sister type and, while a single word was enough to set them in motion, it required a great many words to make them understand what he wanted. And the Ward Sister refused to let him into the cage until a full load of Cleaners had tested it first. These delays, by forcing him to think coherently, had a diluting effect on his original feeling of panic, but even he knew that his actions were not those of a sane man.

During the waiting periods between ascents he read parts of the ledger, and now knew what the Emergency had been. A war. According to Pellew it had lasted five months and had been fought to the bitter end by opposing automatic devices, because after the first week no human being could have survived on the surface . . .

Ross wanted out. Desperately, he wanted away from the unhuman attentions of robots and the sterile death of the wards. He did not expect to find living people on the surface, but he would settle for living things. Trees, insects, grass, weeds. And a sky with clouds and a sun in it and cold, natural air on his face. He didn't think there would be any survivors, but he never stopped hoping . . .

Each leg of the journey upwards was the same. With the Ward Sister at his heels he would stumble out of the cage yelling for a robot native to the section. When one appeared, invariably another Sister, he would ask, "How many human beings alive in this section?" When the inevitable reply came back he would pause only briefly, then say, "Where are your maintenance robots . . .?" Within minutes he would be surrounded by a mechanical menagerie of repair and construction robots, all ticking at him or asking for clarification of their instructions in voices that were so human that it made Ross's flesh creep. Eventually they would be made to clear the way up to the next section.

Once he came to a level which he recognized as being the lowest section of the hospital of his pre-Sleep days. In this section the dust of centuries lay like grey snow in the corridors and the robots he summoned became the centers of croking, blinding dust-storms.

The First Level, which was less than one hundred feet beneath the surface, was a shambles. Lighting, elevators, even the native robots were so much wreckage. Great, gaping cracks grew across walls and ceiling like jagged vines and there had been many cave-ins. But there was also a tunnel, sloping upwards

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steeply and with a fuzzy patch of grey light showing at its other end. In the robot's spotlight Ross could not tell whether the people of this level had dug their way out before they died or someone had dug down in an attempt to escape the holocaust above. He began climbing frantically, the Sister—whose three wheels were not suited to such a rough surface—falling slowly behind him.

He had to rest once, lying face downwards on a slope of loose earth, rock and what looked like pieces of fused glass. There was a peculiar tang in the air which his nose, still inflamed by dust, refused to identify. With the lip of the tunnel only a few yards ahead the dull, grey light was all around him. Ross thought that it was just his luck to pick dusk, or shortly after dawn, as his time to climb out. After a few minutes he pushed himself to his feet and began, wobbling and sliding, to run.

ROSS looked slowly around him while the dark grey fog drove past, blackening his arms and clothing as he watched. To the limit of visibility, which was about fifty yards, the ground was dark grey and black—the smooth, shiny black of partly melted rock and the sooty grey of finely divided ash. The ash swirled and drifted from trough to trough in that frozen ocean of glass, or eddied upwards to become the dry fog blowing past him. The Sun was high in the sky, a dull red smudge, with an enormous ring around it, and the sound of waves reached him from the half-mile distant beach.

He had done a lot of swimming on that beach, alone, with other students, with Alice. Yelling and floundering and splashing for hours on end, playing was the only word which described that activity. And the sea had played, too—a trifle roughly, at times, considering that it was the vast, all-powerful mother of life on the planet and one of her most recent off-spring was giving her cheek.

Ross began moving towards the beach. His brain seemed to be frozen with shock because no time elapsed between the decision to go and his arrival.

The Sun was a brighter red and visibility was up to half a mile—the breeze blowing in from the sea was relatively free of ash. But the great rollers which marched in were mountains of ink, and when they broke and roared foaming up the beach the foam was dirty and left streaks of black and grey on the sand. The tidal pools were as warm and as numerous as he remembered, but all were lined by a thin film of black and nothing moved in them. There was no seaweed, no evidence of the green scum which collects in stagnant pools, noth-

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ing inside the most recently washed up seashells.

They had killed the sea, too.

Ross sat down on a rock which had been smoothed by the sea and given a mirror polish by the tiny sun which had come into being here, for a split second, over a century ago. He sat for a long time. It began to rain and the ash-clouds which had obscured his view inland settled to the ground, disclosing a line of robots coming over the shoulder of the hill containing the tunnel mouth. He watched them for several minutes, wondering whether he should take off his ridiculous toga and dive for the last time into the breakers. But Ross was against suicide on principle. The world had ended, he was probably the last living human being, and the future held nothing but loneliness or madness. So it couldn't be hope which made him sit motionless while the dirty grey foam beckoned, for that had become a meaningless word. Perhaps it was because Ross was only twenty-two.

When the robots arrived and performed a neat encircling movement, the Ward Sister said, "You must return to bed, Mr. Ross." Seconds later a Cleaner laid his weakly resisting body along its back, pinioned him with five sets of metal arms and rolled back towards the tunnel mouth.

It took Ross several minutes to realize that he had undergone a change of status. The Ward Sister, it appeared, had heard him coughing in the ash-filled air at the mouth of the tunnel, had noted the many cuts and grazes on hands and legs he had acquired during the climb and these, taken together with his somewhat abnormal recent activities, had caused the robot to react in accordance with its basic programming. He was no longer a Doctor-in-Charge called Sir, but a Patient called Mr. Ross. And Patients did what Ward Sister told them to do, not the other way around.

He was confined to bed for seventeen days.

CHAPTER 6

UNTIL each tiny cut was healed and the last square centimetre of scab dropped away, Ross's every order was ignored. When sheer impatience made him abusive, that also was ignored, as were most of his threats.

The one threat which was not ignored occurred on the second day. Ross had been throwing a tantrum over not being allowed to exercise for a few hours every day. He had ended by observing, at the top of his voice, that such an inhuman confinement was likely to drive him round the bend, that it could very well force him into taking his life,

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perhaps, through sheer boredom. To this the robot had replied physical examination showed that he was in a severely weakened state, due both to recent revivication and his too-exhausting trip to the surface, and that prolonged rest was indicated. Also, since the danger of Ross injuring himself had been mentioned as a possibility—the chief reasons cited being loneliness and boredom, two conditions not likely to improve—it was the Ward Sister's duty to guard him against this danger for the rest of his life.

Just then Ross did not want to think of the future. He wanted to chat about unimportant things such as how he should have his hair cut and why some items of his clothing had deteriorated while others had not. But Ward Sisters were supposed to be too busy to chat with patients while on duty, and Ross was now a patient. Three or four times a day he received a few words of encouragement, and that was all.

Ross did not like the pictures he saw when he closed his eyes, so he kept them open as much as possible, staring at the ceiling, moving them slowly around the room, or squinting at the three inches distant bed-sheet in an effort to resolve its weave. But the ceiling was white and free from discoloration, the room's fittings were bright, angular and cast no shadows, and trying to make his eyes behave like a microscope only gave him a headache. There were no angles or shadows or tricks of light on which his mind could build the nice, harmless pictures which would keep him from dwelling on his present terrifying position, and so he would be forced to look at the robot.

A smooth, upright ovoid with one fixed and one rotating eyepiece, and to Ross's mind a cybernetic miracle by virtue of its compactness alone. A servant, guardian and trained nurse, placed in this position of responsibility because of a shortage of human nurses, which had later become a shortage of human beings . . .

At that point the pictures which he did not want to see would come, whether his eyes were closed or not.

Pictures of Alice in crisp blue and white, serious, dedicated, untouchable. With her short hair, unplucked eye-brows and thin lips her face had resembled that of a studious young boy. When he had discovered that she was neither unapproachable nor untouchable—towards himself, anyway—he had once told her that she looked like a boy. They had been swimming and Alice's dark brown hair was plastered tightly against her scalp, increasing the resemblance. A small, wet, femi-

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nine hand had made contact with his dripping back in a slap which stung, in memory, even now, and he had had to add a hasty qualifier to the effect that he meant from the neck up. Strangely enough, it had been later in that same day that he discovered that her lips were not thin, that they only seemed that way because she habitually kept them pressed together. Alice worried a lot, about examinations, her patients, about many trivial things which a less dedicated type would have ignored. She had very nice lips.

Pictures of Alice stretched on the sand behind the low rock which sheltered them from the wind, the heat of the sun covering them like a too-warm blanket. It was a picture in five sensual dimensions; the warm, damp smell as the sun blotted up the last remaining seawater from swimsuit and hair; the sensitive, tanned face looking up into his with eyes which seemed to grow larger and softer until he could see nothing else; then the kiss which, no matter how long, never lasted long enough; sometimes then she would sigh and murmur softly to him—but he rarely heard what she said, because the silly girl kept playing with his ears every time she tried to tell him something. They would kiss again and the emotional gale rising within him, the roaring in his ears and the mounting thunder of his pulse, would almost drown the slower thunder of the breakers, the great dead, filthy breakers which still crashed against a black and lifeless beach . . .

No matter how hard he tried to avoid it his mind always slipped back into the same pit of despair. Until this moment Loneliness had been a word with only a shadow of meaning. Until now nobody had known the crushing sense of loss and grief of a man whose loved ones, friends *and everyone else* have been taken away to leave him alone on a dead world. The fact that, by his own subjective time, only three or four days had gone by since Alice had kissed him a tearful good-night and Pellew had growled his best wishes and Ross's world had contained a crowded hospital which was part of a civilization covering a planet whose every square yard had teemed with life of some sort, made his loss that much more terrible.

MANY times Ross wanted to die. But he was too young and healthy to die of grief, and any more positive approach to dying would certainly be checked by the Sister. And so his despair found its lowest point and, because the only way to go from there was up, it began to recede.

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Not that he felt hope or anything like it, it was simply an acceptance of his present circumstances and the feeling that perhaps he should look more closely into them before he made a more determined effort to end it all. After all he had a hospital, hundreds of robots and he didn't know what else at his disposal and taking stock seemed like a good idea. Besides, it would keep his mind occupied.

At about the same time as Ross made this decision he discovered that while the robot continued to ignore all his orders and/or invective it would accede to reasonable requests of the type which convalescent patients could be expected to make. The Ward Sister did not forbid him to read.

The first book Ross asked for was, of course, Pellew's diary. He read it through carefully from beginning to end, then reread it in conjunction with the green folder. Now he knew exactly what had happened to the hospital, and when. Pellew had begun his diary as the usual personal record of events, but towards the end it became a series of orders and suggestions directed towards Ross himself, when the doctor had realized that he was likely to be the only survivor with medical training.

Ross requested books which Dr. Pellew had suggested he study. Works on genetics for the most part, which must have been heavy going even for the good Doctor. For his own information he asked for books on robotics, and one of them turned out to be a popularization which he could just barely understand. He also began to make plans for the time when the Sister would stop calling him "Mr. Ross."

Then one "morning" when the lights had come on after his eight-hour sleep period the robot placed three food cans beside him and asked, "Have you any instructions, sir?"

Ross said yes with quite unnecessary force, and while he was struggling into a fresh toga he began issuing orders. Some of them, he feared, were pretty tall orders. First, he wanted the case histories of the people who had died between the time of Pellew's death and his own awakening. He was not hopeful of finding survivors in Deep Sleep because the Sister had stated that there were none. But Pellew's diary had said that Ross was the only survivor with medical training, which implied that there must be other survivors without training, and he wanted that point cleared up. Second, he asked for a census to be made of all the operable or repairable robots in the hospital, their numbers, types, relative intelligence and specialities. Any who had been placed in a state of

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low alert by humans prior to their deaths were to be reactivated. Third, he wanted a report on the water, food and power supply position.

Ross paused. From his reading he knew that the Sister had been relaying his instructions as he had spoken them. To the other robots in this level who, because Sister's transmitter could not punch a signal through a mile of solid rock, would relay them physically to the higher levels.

He took a deep breath and went on; "You will detail cleaning and maintenance robots to repair and clear the damaged upper levels, including where necessary elevators and communication circuits. And I want a small area of the surface cleared of ash and soil samples taken at one-foot intervals to a depth of twenty feet. I'll require samples of the air and sea-water as well."

Ross hesitated, then asked, "Does your training, I mean programming, enable you to do an air or soil analysis?"

"No, sir," the Sister replied, "but there are Pathology Sisters capable of doing so."

"Very well, put them onto it . . ."

He broke off as a Cleaner rolled in, deposited a small pile of folders beside him and began making his bed. The notes Ross had made while lying down were knocked to the floor, and the robot picked them up and thrust them into its built-in waste-paper basket.

"I want those back!" said Ross angrily. When the sheets had been returned, slightly crumpled, he added, "I'll do my own tidying up from now on. No Cleaners are to come here unless I send for them."

WHEN the robot had gone Ross looked through the case histories it had brought. There were five of them, all relating to patients suffering from conditions which in his time had been considered fatal. Like him, their 508 forms bore the words "Treatment Successful, to be revived permanently in—years from this date"—the number of years ranged from forty to seventy-five. Unlike his own they were all stamped "Died during Revivication," and in all cases the attending physician was down as Ward Sister 5B. In spite of himself, Ross shivered. For the first time since meeting the robots on the day after his awakening he felt afraid of them.

"Why did these patients die?" he said, as steadily as he could manage. "Tell me the exact circumstances."

The Sister ticked a couple of times, then said briskly, "Dr. Pellew's orders were to awaken all Deep Sleep patients when their revivication was due, and he did not cancel or modify these

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orders prior to his death. We therefor revived all patients as they fell due, using robot assistance. Specifically, I attended to the revivication while two Cleaners restrained the patients so that they would not injure themselves by moving too suddenly or too soon. On awakening the patients displayed extreme agitation and tried to break free of the robot arms which were holding them immobile. Their struggles were of sufficient violence to cause internal damage from which they subsequently died."

Remembering his nightmares in which the thin, metal arms of cleaning robots had gripped his chest, head and arms, Ross could understand the extreme agitation of those patients. He knew now that they had been trying to keep him from injuring himself, but then he had been convinced that something was intent on crushing the life out of him. But at the thought of those five patients dying like that, patients over whom doctors like Pellew and Hanson had labored for so long to cure and preserve so that their race might go on, Ross gritted his teeth. With five people, three of them had been female, and almost unlimited robot labor much might have been accomplished. In time they might have filled these echoing, empty wards, might have spread to the surface and begun filling the world again. Before that happened Ross would have had to work himself to death, probably, bringing children into the world, anxiously guarding the health of its tiny population, coordinating human and robot effort and generally behaving like a frantic mother hen—that was what Pellew had had in mind for him, according to one of the last entries in the diary. It might not have been an entirely pleasant future, but Purpose would have obliterated Despair and loneliness would have again become a word which had only a shadow of meaning.

"You stupid, blundering machine!" he raged suddenly. "Didn't you know they were long-term patients, from the prerobot era, and bound to be frightened by such an awakening? And why did you go on reviving them, letting them die, *killing them!* After the first patient died you should have tried—"

"My previous experience had been with short-term patients who showed no surprise at their awakening being supervised by a robot," the Sister broke in, "And Dr. Pellew had promised to issue instructions regarding the six long-term patients, but he died before doing so. There are three possible reasons for his neglecting to do so: that he did not know what instructions to give; that he intended living through

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until the first patient was due and awakening him personally, because he had stated several times to me that he was a very lonely man; or that he knew what orders to give but simply forgot to give them, he being very old at that time and tending to forget things . . ."

"He wasn't doddering," said Ross angrily. "I've read his diary. I know."

". . . But we had definite instructions to awaken these patients," the Sister continued as if he hadn't spoken, "and had therefore no choice but to do so. This despite the fact that our basic function is to serve man and save men's lives. We kept reviving the patients in the hope that some of them would survive the process, but none did. Then we came to you and were faced with a dilemma.

"To a robot," it went on, "allowing a human to remain in Deep Sleep forever is the same as allowing him to die, and bringing one out of Deep Sleep was the same as killing him. And if we killed you, who were the last man, we would both fail in our purpose of saving human lives and at the same time remove our other reason for existence. We could not serve Man if there were no human beings left. That was why, when we commenced revivication on you and you began to display the same symptoms of increasing mental distress and violent muscular activity as had the others, I halted the process and returned you to Deep Sleep. In this I exceeded my instructions, but it seemed the only way possible at the time of not killing you . . ."

The Ward Sister became technical at that point as it went into details of conferences with various repair robots. As the most intelligent single robot in the hospital—the last modification produced by the great cybernetic-ist Courtney—the responsibility for solving the dilemma naturally fell on it. Its purpose in going to the repair robots was to have them try various modifications and extensions of its memory banks in the hope of emulating the creative or intuitive thinking used by humans in order to solve the problem. Whether the resultant modifications helped or not the Ward Sister had no way of knowing, but after several months and another halted revivication had passed, a new method of attacking the problem suggested itself . . .

. . . For a successful awakening I needed at least one human being in attendance," the robot continued in its brisk, feminine voice, "and by breaking down the function of the human during such a time into separate parts, converting the large problem into several small ones, I ar-

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rived at the solution. The human had to be seen, heard and had to assist the patient physically to do some gentle exercise. I knew of one of Dr. Pellew's ornaments which resembled a human being, and could be painted to increase that resemblance. I had access to tapes containing Dr. Pellew's voice which were edited to fit the situation, and the exercise was provided by causing you to go into the corridor for your file, which also began the process of reorientation. It remained only for us to keep out of sight until you understood what had happened while you were in Deep Sleep, which was supposed to be after your reading of Dr. Pellew's diary. Instead, you ordered us to come out—"

"You've done very well," said Ross heavily. "Mr. Courtney would be proud of you."

"Thank you, sir."

"But you shouldn't have bothered."

The Sister began ticking at him.

ROSS turned suddenly and strode out of the room, along the corridor and up the sloping ramp until he came to a compartment with "Maintenance" on the door. With the Sister trailing a few yards behind, he entered and began searching the tool lockers until he found a long handled spanner which weighed about eight pounds and was over two feet long.

"I want you to do something for me," Ross said in a mild voice. "I want you to stand still." Then he swung the spanner against the robot's smooth metal casing with all his strength.

The blow landed with a shock which jarred him to his heels and a crash which was the loudest noise he had heard since awakening. It battered in one of the flush panels, bludgeoning through the mass of delicate surgical and medical gadgetry underneath. From the wound multi-colored blood spurted as underlying drug containers shattered, and three syringes on extensible arms sprang out and sagged downwards. Ross swung again.

The second blow caused only a shallow dent because the robot had moved away, and the third one missed entirely.

"Stand still!" said Ross thickly, raising his metal club again and aiming for the robot's lenses. One of those last five patients had been a nineteen-year-old girl. *An eye for an eye,* he thought with a cold ferocity, *and for a girl's life a dead mass of scrap iron . . .*

"Mr. Ross," said the robot, retreating again, "you are not behaving in a sane—"

"This is a scientific experiment," said Ross a little breathlessly, "to determine whether or

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not you can feel pain. And I am not a patient, so call me 'Sir.'"

That was important, Ross told himself. If he gave good, logical reasons for wanting to smash it into its component nuts and bolts he might get away with it—he would still be the boss. But once let it start thinking of him as a patient and then it would be the boss. He advanced again, silent and blank faced, trying to hide his killing rage behind a facade of scientific curiosity. He had the Sister in a corner now.

One of the robot's body panel's opened briefly. Ross did not see or feel or smell anything. His spanner hit the floor an instant before he did, and he didn't feel that because by that time he was asleep.

WHEN Ross came to there was a big, multi-jointed angular object resembling a surrealistic spider working at the Ward Sister. Several of its panels had been detached, revealing a considerable amount of internal circuitry, and the overall effect seemed vaguely indecent to Ross. The Sister spoke first:

"The data which you required could have been obtained by a verbal request," it said in the brisk, pleasant voice it always used no matter what the circumstances, "so that your experiment, which has caused me a temporary loss of efficiency, was unnecessary. I do not feel pain, or pleasure, in the manner of a human being although I am trained to observe and treat its symptoms in patients. Primarily I have been built to serve Man and anything which hinders my doing so causes me a robot equivalent of pain and anything which aids me towards that end is a form of pleasure. To expand that, pleasure lies in working as hard as possible at the direction of human beings, maintaining myself at peak efficiency to further that end, and avoiding all situations likely to bring about a loss of efficiency when such avoidance will not endanger a human."

"So you got a kick out of knocking me over just now?" Ross said woozily. "An anesthetic gas, wasn't it."

"Yes, sir."

Ross shook his head. He was beginning to feel ashamed of his recent berserker rage—especially as it had been such a dishonest, camouflaged sort of rage—against this machine which had, after all, been doing its best. He felt that he should apologize to the Sister, except that apologizing to a machine struck him as being ridiculous.

Awkwardly, he said, "Then I hurt you by causing a temporary loss of efficiency, and by defending yourself against a possible permanent loss of efficiency you

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gained pleasure. That makes us even."

"We are not competing, sir," the robot said. "You do not fully understand the position. All the robots here are your servants, because obeying you and protecting you gives us the only pleasure we are capable of experiencing. It is a matter of basic programming. If you should ever die that would hurt all of us very much."

Ross felt a prickling among the short hairs of his neck. *If you should ever die . . .* The robot must surely know that all human beings died in time, so why should it use that particular form of wording? This posed an interesting psychological point, he thought, and one which he must go into thoroughly at some later date. An electronic brain which made Fruedian slips was something to think about.

He climbed slowly to his feet and stood for a few minutes until a slight dizziness had passed, then walked across to Sister and the repair robot.

"I shall be finished in twenty minutes," said the repair robot in a deep, masculine voice which matched its functional but unbeautiful body. "The damage is superficial."

Ross nodded. He said, "Most of the books down here are medical texts, and medicine looks like becoming somewhat of a dead science at the moment. But there used to be a good Patient's Library on the second level and it may still be there. I'm going up there to start learning something useful . . ."

As he left the maintenance storeroom a Cleaner fell in behind him to escort him to the second level and to guard him against any dangers that might threaten, the most likely danger being a sudden suicidal urge on the part of himself apparently. Ross smiled sardonically and began to question the Cleaner about its duties.

Keep the servants happy, he thought.

CHAPTER 7

DURING the month which followed Ross kept the robots very happy indeed. Most of the cleaning and repair robots were engaged in rebuilding the first level and he found jobs of some kind for the others. He was so busy making work for the robots and advancing his grandious—and essentially hopeless—long-term plans towards completion that he hadn't time to think about himself, which was exactly how he wanted it.

Gradually the reports he had asked for came in. He found that mechanically the hospital was in perfect working order, but that the contents of the blood bank

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and other medical supplies which had been in common use had deteriorated. The power supply was atomic and therefore no problem, there were food stores on every level, and although the water supply was low at the moment, more could be processed from the ocean now that it was no longer radioactive. Under its thin coating of ash the soil was rich, but dead.

A diary found in the debris of the first level gave him the explanation.

During the first three days of war more nuclear weapons were exploded on the Earth's surface than were believed to be in possession in the combined armories of the world, and during the first month there was little slackening off. By that time nothing lived on the surface. Animal life perished first, then insects and finally the plants. Despite their high radiation tolerence the Bombs were too many and too dirty and the fallout claimed them. The fantastic number and frequency of the explosions made it plain that the bombs were being manufactured and launched from hour to hour, that the work was being performed by servo-mechanisms and that the bombardment would continue until those servos were knocked out or their available sources of raw material ran out. And so the radiation pushed deeper, sterilizing all life from the soil—the earthworms, the larger micro-organism, the deepest, most tenacious roots, all perished.

Outwardly there was very little change in the areas not directly affected by the explosions. The long grass waved in the wind and trees still stood proudly, against the sky, but the greenery had taken on a September hue and it was only mid-April. And at sea the war was less spectacular even though as many nuclear devices were exploded under water as had been loosed on the surface—many of the launching bases were on the sea bed and the oceans teemed with unmanned submarines. A lot of dead fish were washed up and lay on the beaches for a long time, not rotting exactly because the organisms responsible for the process of putrefaction were dead also, but simply drying up or falling apart until they were washed or blown away.

The sea was dying of radioactive poisoning, the land was dead already and at night the air glowed. There were too few survivors underground to check what happened next, even had they been willing to sacrifice their lives in trying.

The fires started by lightning or still-smouldering debris took hold and spread, everywhere. Dead vegetation does not retain moisture for long so that even a

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heavy rainfall served only to slow that fiery advance. Across fronts hundreds of miles wide the conflagrations raged, sweeping first through countries and then continents with a complete disregard for natural and national barriers alike, and spewing great masses of ash and smoke into the upper atmosphere. The off-shore islands held out briefly until deluged with sparks from a mainland fire-storm, and in the Southern hemisphere the fire was slow to take hold. It was winter there and in the equatorial regions the vegetation grew in swampland or was kept wet by the rainy season. But the great tracts of once lush jungle were dead, and above the water-line, drying. When the dry season came they went the way of all the other combustibles on the surface of the planet.

Having died, Ross thought grimly, the Earth had cremated herself.

HE did not feel as bad as he had expected after reading that diary, and realized that discovering the scientific explanation for the surface conditions came as an anti-climax to his first sight of them two months ago. Remembering that constant fog of ash and soot, that had been less dense over the sea or when rain fell, Ross began to form certain conclusions.

Although very finely divided the ash was heavier than air and its fall was sometimes helped by the rain. When it fell on land it formed a stick mud which, when it had dried out, was blown into the air again. Any that fell into the sea remained there, so that eventually the oceans would absorb it all. Probably the process would take many centuries, but in the end the air would be clear again. The ocean would stay dirty, and there was nothing that Ross could do about it. His final conclusion was that he should return his mind to circumstances over which he had some control, and the sooner the better.

There were three hundred and seventy-two robots, three large repair shops and a considerable variety of spares at his disposal. For Ross's purpose it wasn't nearly enough, and so he put the matter to Sister. Because it was only a robot he used simple language, cool logic and took his argument forward in easy steps. At least, he started that way . . .

"I am the only human being left in a hospital whose robot staff are trained to care for thousands of patients," Ross began quietly, "and it follows that with the exception of yourself and a few Cleaners the staff will have nothing to do, medically speaking. I have been assured, both by you people and from my reading,

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that a robot with nothing to do is a very unhappy hunk of machinery indeed. But if I am to keep you busy, if you are to do the jobs I have planned for you, the robot nursing staff will have to learn new skills and subject themselves to drastic physical modifications. They must learn these skills in addition to their existing medical training, because there would be the possibility, a very slim one, I admit, that their medical skill might suddenly be required. Before I go into details, however, are these alterations in structure and programming feasible?"

The robot was silent for about three seconds, then it said, "I have communicated your question to the Senior Maintenance robot. Structural modifications are no problem, but the ability to learn is governed by the capacity of the memory banks. A full answer is possible only if we know the details of the work you require done."

"Very well," said Ross. "Get that Maintenance robot down here. I know you can transmit vision as well as sound, but I'd feel more comfortable if he was right here. I've some sketches and illustration I want you both to see."

He went across to his desk, opened the big ledger which over the months had grown into a cross between a diary and a scrap book, and sat down. The Ward Sister stood behind him and shortly afterwards the maintenance robot squeezed through the door, its blocky, multi-jointed body making the room seem suddenly crowded.

"What I have in mind is this," Ross began without further preamble. "Robots of the Cleaner and Ward Sister type to have their wheels replaced by treads similar to those on the diggers, also whatever modifications necessary added to protect them against rain or drifting ash, so that they can operate for long periods on the surface. I know that they have infrared vision, so that working at night or in bad visibility will not hamper them. In addition I want them fitted with a means of detecting metal, digging it out and transporting it back here. These sketches will show you what I have in mind. But this is only the first step.

"The metal is to build more robots," Ross continued quickly, "who will go looking for metal to build yet more robots. For my purpose I will require thousands of robots, working hard and continuously, and the metal available in the ruins of the nearer cities will not be sufficient. Eventually we may be forced to mine and process the raw ore. But before that stage is reached I want to have robots searching the ocean bed, and the search ex-

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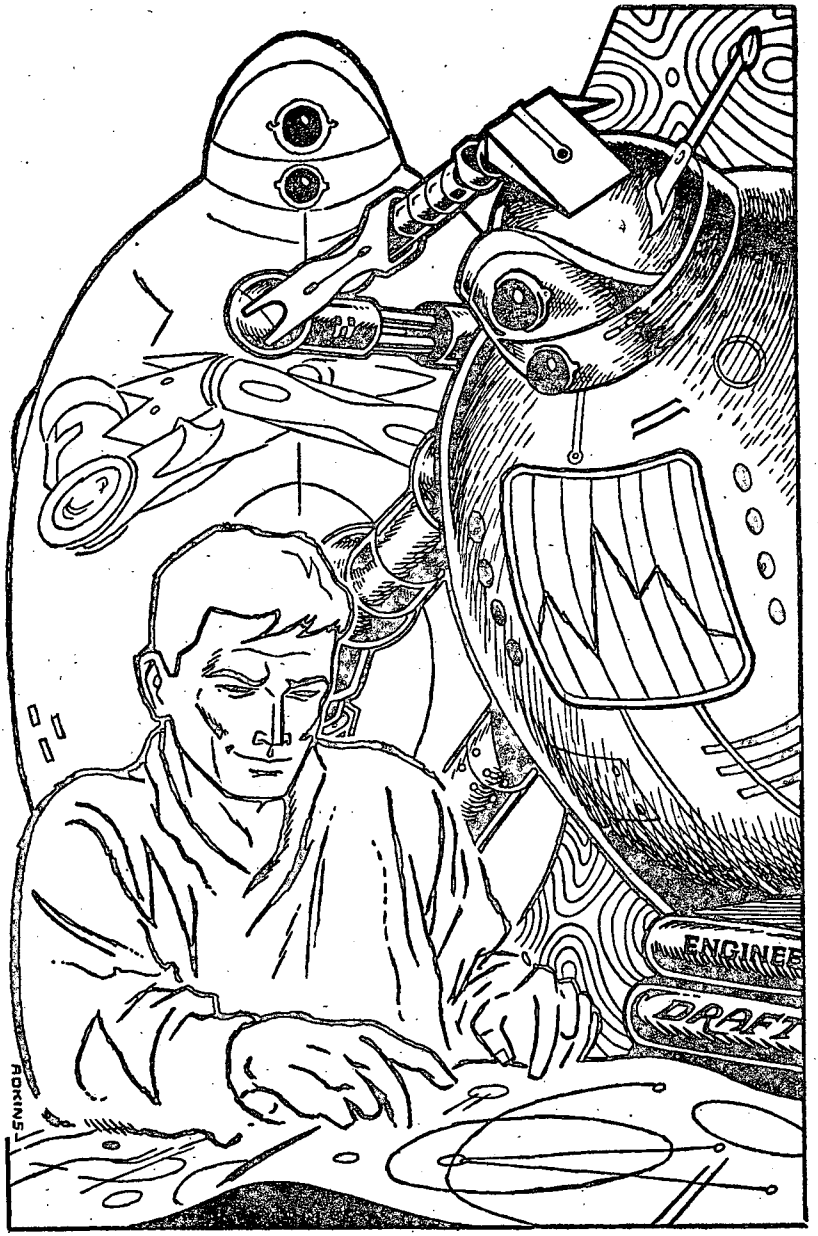

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tended into other countries by amphibious and airborne models . . ."

ROSS was becoming excited in spite of himself. He was turning pages and jabbing his finger at sketches which he had not meant to discuss at this early stage, and babbling about submarines, helocipters, Archimedes and jet engines. He was leaving his audience behind, yet he couldn't stop himself. In a disjointed and nearly incoherent way Ross was outlining what was to be his life's work, the goal which would keep him sane and make him as happy as it was possible to be in his position, and suddenly he could no longer keep his hopes bottled up.

". . . I want the whole damned planet searched!" he went on wildly. "Every square foot of it. Somewhere there are other hospitals like this one, perhaps with patients still in Deep Sleep, or undersea bases which survived the war. It happened here so it could happen somewhere else! That is why the search robots must retain their medical knowledge, and extend it wherever possible. The descendants of those survivors are likely to be in bad shape.

"And if you should come on another Deep Sleep patient, *I* will supervise the awakening . . ."

Both the robots were ticking at him, a sure sign that they were helplessly confused. Ross broke off awkwardly, then in a more subdued voice began to question the robots regarding the problems of converting his nursing staff to heavy industry.

And there were problems, all right. They lay solidly, one on top of the other, like a brick wall. One of the chief difficulties lay in the limited capacity of the robot brains to store new data. After basic programming a robot possessed the ability to learn by experience—in a very narrow sense, of course—because a small proportion of its memory bank was deliberately left unfilled. But this tiny fraction was not enough to contain data on a whole new specialty, and the result would be a cross between a very smart nurse and a hopelessly stupid miner. The answer was to cancel a large part of its medical programming, but Ross did not want to do that.

Another problem was the difficulty in putting ideas across to the repair robot. To it an illustration was just so many lines on paper, it had no understanding of perspective or of the solidity which they represented. Ross had to go over every line individually explaining that this one was the radio antenna, that this particular squiggle was the towing hook and this series of parallel lines

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represented part of the caterpillar treads. Even then he could not make it understand properly. His frustration increased to the point where he felt like shaking it until its insides rattled or coming at it with the two-foot spanner in an attempt to beat some sense into it, even though he knew that either course was likely to have the opposite effect. Finally he lost his temper completely and told it to get out of his sight.

In its maddeningly emotionless voice it requested clarification on the term hell and directions for getting there.

Ross closed his notebook and gently thumped the side of his head with a fist. "Why are you so stupid?" he said wearily. "You're supposed to be the mechanical wizard here, yet Sister, who is only a nurse, seems to get what I'm driving at better than you do—"

"It is a matter of programming, sir," the Ward Sister broke in. "Maintenance robots cannot abstract data from lines on a chart, such as pulse and temperature graphs, or from x-ray pictures as are the nursing robots—"

"I read circuit diagrams . . ." began the repair robot.

"Let's not start a fight," said Ross drily. "Just tell me why one of you seems more intelligent than the other."

There were two reasons, and as Ross listened to the Ward Sister's reply he realized that he should have seen one of them without being told. Ward Sister 5B was the last, most recent modification built by the great Courtney. Robots were not supposed to be able to think creatively, but Ross could not forget that this particular Sister, when faced with the dilemma of possibly killing the last human being, had achieved something remarkably like creative thought. It had been too little and too late, but an achievement nontheless. The second reason was simply a matter of increased capacity for memory storage, as represented by the large box riveted to Sister's ovoid body just above the rear wheel struts.

Which meant, among other things, that Ross could have his Nurse-Miners, or even Nurse-Mining-and-Repair robot combinations, merely by increasing the memory storage capacity. To be sure he put the idea to the Senior Maintenance robot and received the reply that there was nothing against such combinations providing the memory bank was of sufficient capacity.

". . . Then what's all the fuss about," Ross demanded angrily. "Why didn't you tell me it was only a matter of—"

"The normal type of robot," put in Sister at that point, "is

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not capable of volunteering information."

Listening to her Ross had to remind himself that machines were not supposed to be capable of smugness, either.

"Then it's time we had a few more super-normal robots," he said seriously. "I've read Courtney's notes on the 5B modification, and from the little I understand of them it appears that Sister here has had a small change in circuitry which, when she is faced with a problem, makes available data on all similar problems which have been solved previously . . . No, that isn't what I meant. Courtney says that she has a choice of answers to any problem, and if she makes the wrong answer that error is filed as a datum and she will never make exactly the same mistake again.

"Anyway," he ended, "is it possible for 5B's modification to be reproduced in the other robots,"

The answer was yes, provided the Senior Maintenance robot was allowed to dismantle 5B to do so. When he heard that Ross felt oddly concerned about the Sister. Like any lay friend of a patient he wanted to ask if the operation was likely to prove fatal, and similar anxious queries. He realized that Sister had come to mean a lot to him in the past few weeks. Whether deliberate or otherwise her refusal to grant him a moment's privacy either day or night, while infuriating and at first downright embarrassing, had kept him from feeling too badly the loneliness of his position, and she was the smartest robot he had. The fact that her concern for him was an artificial, built-in feeling did not seem to matter.

Ross had difficulty in phrasing his next question, but the Sister answered it without trouble.

"The directives against harming another robot are only slightly less strict than those against damaging a human being," she said. "During the dismantling and reassembly I should incur no loss of memory or function."

"Good," said Ross, "then here is what I want done. First, all robots, both existing and those which are to be built, to have the capacity to store data on at least three specialties, with provision for further learning. Next, all robots are to be made capable of abstracting data by *every* aural and visual means. That includes the spoken word, radio, photographs, circuit diagrams, charts, graphs, contour maps, astronomical observations and the meteorological phenomena encountered in air and sea navigation. And when they are capable of doing this I want them to absorb data in all fields until they can't hold any more, then extend their

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memory banks and go on learning, indefinitely. Do you understand my instructions?"

"Yes, sir," said the maintenance robot.

"You require a robot which is unspecialized," said Ward Sister, and added, "Such a mechanism may be too large to operate inside the hospital."

Ross hadn't considered that angle, but it wasn't important. He said, "I'll require hundreds of such robots, and we can stable them on the surface. Any other objections."

The repair robot said, "The building program as outlined is possible, but I require a breakdown of your instructions and the sequence in which you want them carried out."

Ross groaned inwardly, he hadn't considered details himself yet. But he was becoming expert at talking with authority on subjects about which he knew very little . . .

A FEW hours later he was present when the Senior Maintenance robot and another of the same type scattered pieces of Sister all over the machine shop floor. Ross wasn't squeamish about dismantled machines, but the way 5B kept carrying on a conversation while lying about in that condition gave him the creeps. In a surprisingly short time the Senior had succeeded in doing for the other repair robot what Courtney had done for Sister, and in an even shorter time the newly enlightened one had returned the compliment. They put Sister together again in no time at all.

Ross now had three robot geniuses on call, and he knew that within a few weeks the Courtney modification would have been extended to all the robots. It should have been a great moment for him, but instead he felt strangely let down, for despite his recent intensive reading on cybernetics he had not understood a single thing which he had seen done.

Analyzing his feelings, Ross came to the conclusion that it was simply a matter of his pride being hurt. He did not want to feel that a machine could be smarter in any subject than he was, although it was plain, when he thought about it more deeply, that every robot in the hospital would soon be smarter than he was on any subject. He had to remind himself forcefully that they were only tools. Complex, of course, but still only gadgets designed for his use or convenience. The idea was to use, not try to compete against, the things.

Only briefly did he wonder, with that uneasy fluttering in the pit of his stomach, if he knew what he was doing.

The first obvious change was

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that every robot acquired a trailer. Mounted on two wheels and joined to the main robot body by a flexible coupling which also carried a bundle of connecting cable, these were the housing for the extra data banks Ross had ordered. His idea had been to raise the general intelligence level of the robots in order to make his later, and more complex, instructions understandable to them. Instead he often found himself having to explain the simplest, most obvious things—obvious to a human being, that was—while they fairly romped through items which to Ross had seemed extremely difficult. Gradually he found himself being forced into the position of a coordinator rather than a teacher, but that did not mean that he had less work to do.

On the surface a large transparent dome was built to house the first Miner, and the fifty-odd robots engaged in its construction. Higher on the hillside he built a smaller one, which enclosed a chair, some communications equipment and thirty square yards of soil from which the ash had been cleared. When it rained heavily and the wind was just right Ross could just make out the sea, but usually he looked out at a dirty grey fog and a dull, hot sun with a red ring around it. It was very warm on the surface, even at night, and Ross gussed that the sooty atmosphere was responsible for the general rise in temperature by decreasing Earth's albedo.

Although he kept the soil inside his dome wet, and it got all the sunlight there was going, nothing grew.

Between working on methods for programming the search and mining robots to accept data in foreign languages—some of the places they would be going, English would neither be spoken or printed—he set his longer-term plans in motion. The principles of flight he demonstrated by flying paper airplanes until the robots engaged on that project were able to understand the literature available. Trying to put across the idea of bouyancy in water was more difficult. Because his model floated the robots seemed to consider the water as being a form of mobile ground surface, and they kept trying to walk on it. The first couple of times, Ross laughed.

As the Miner neared completion he instructed another team of repair robots to design a multipurpose model which would not have to be as large as a railway locomotive. He gave them the few cybernetics books he could, together with some notes Courtney had made for further modifications. The following progress reports were disappointing and later ones grew as unintelligible

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to him as Courtney's notes had been. Ross kept them at it, partly in the hope that they would fulfill their instructions and partly to see if it was possible for robots to think subjectively.

Then one day as he was inspecting the digging vanes of the new Miner the ground stood on its end and he buried his face in damp, sooty earth. When he came to Sister was calling him Mr. Ross and putting him to bed, and he had to take a ten-minute lecture on the stupidity of human beings who insisted on working like robots, continuously and without sufficient rest, until their body mechanisms—which could *not* be repaired or replaced—became dangerously overstrained. His loss of consciousness on the surface, according to her diagnostic equipment, had been caused by mental and physical exhaustion and a long complete rest was indicated.

And by complete rest, Sister meant exactly that. Since acquiring the trailer which had more than quadrupled her data storage capacity, Ward Sister 5B had become very difficult to outsmart. This time 'rest' did not mean a change to working in a horizontal position; he was not allowed to make notes or study technical volumes.

She insisted on bringing him a selection of light, romantic fiction . . . !

It had been almost a year since his supreme authority had been usurped like this, and it both angered and frightened him. He had urgent work to do and the thought of lying in bed without something to occupy his mind nearly threw him into a panic. The books he had been given only made things worse, describing as they did backgrounds and situations which were no longer a part of the real world, and were therefore extremely painful for him. There were no sun-drenched lagoons fringed with palm trees, no smell of freshly-cut grass, no parents worrying about the current infatuation of their daughter. Ross would have given all he possessed or ever would possess to be even in the losing corner of an eternal triangle.

He stopped reading those books, not because all the vistas they described had become one—smoke and ashes lit by a red Sun—but because they were about people. It was almost a pleasure when Sister ticked him off every morning for overworking, or lectured about the advisability of taking rest in addition to his sleeping period.

Ross found himself wondering why exactly he had been working himself to death. He had his whole life in front of him. What was the hurry.

If there were survivors underground somewhere, they would

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be eleventh or twelfth generation and in no immediate danger of extinction if they had managed to stay alive until now. Similarly, there was no frantic hurry about finding any who were surviving in Deep Sleep, they would keep indefinitely. Ross was understandably anxious to contact any other survivors that there might be, he wanted to find and talk to other human beings in the worst possible way, but even that did not explain the way he had driven himself lately, at least not altogether. There was something else, some deeper, more driving urgency. It continued to drive him even when he was asleep.

CHAPTER 8

HE was running through ash and smoke towards a trim, single storey house seen through the trees of its surrounding garden and the ever present smoke. There were the sounds of children playing—two, or maybe three—and a woman singing over a hammering noise which was coming from the back of the house. But no matter how fast he ran the house with its unbelievably green trees moved away from him and he was running into an eternal black snowstorm. Or he was swimming frantically through an oily black ocean towards a shoreline of low, grassy-topped dunes which were not quite tall enough to hide the roofs of houses inland, only to see these symbols of life, both plant and human, swallowed up in the dirty, acrid-smelling fog.

There were many variations but the theme remained the same; frantic urgency, hurry hurry hurry or you won't make it. Ross knew that there had to be a good reason for that driving urgency, something in the present situation must be fairly screaming at his subconscious that there wasn't much time left, but try as he would he could not bring that reason up to the surface levels of his mind.

Not all the dreams were unpleasant, however; those in which Alice figured were quite the reverse. In these the sky was always blue and the black ocean never obtruded itself. Here again the theme was always the same, with no very subtle variations, and such that he woke up hating his cold white room with its untidy piles of books and Beethoven scowling at him. After a dream like that he would gulp his breakfast and go storming up to the surface or to the first level library and work even harder, and sometimes he would be able to forget it.

Now he was not allowed to work at all. Now he had no way of forgetting Alice, or the beach, or the small park—not very well tended—on the inland side of the

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hill, or the hospital as it had been. Except when he lost his temper and threw Sister's selected light reading back in the place where her face should have been. Sometimes that would start an argument, bad language and a furious silence on his part, at others an exchange in which he tried to make Sister feel as confused as possible while she tried to reassure him.

Sister was much smarter these days, and had absorbed several textbooks on psychology.

AFTER one particularly hot session on the twelfth day of what Ross considered his imprisonment, he asked suddenly, "Do you know what is meant by telling a lie, or doing a kindness, or making a pun."

Sister had been spouting Freud and sex urges at him as if she had used them all her life, and Ross had grown annoyed because the robot knew so much more psychology than he did that he couldn't even make a fight of it. This was his way of putting Sister in her place.

"I have no data on puns or their methods of construction," Sister replied briskly. "Doing a kindness means to render assistance, and telling a lie is, I have read, the transmission as true of data which is incomplete or false."

Ross said, "I take it, then, that you would do me a kindness but you would not tell me a lie."

"Of course, Mr. Ross."

"But suppose, in order to render assistance, you had to tell a lie." Ross went on. "For the sake of argument let's suppose a man is devoting considerable time and effort to a project which you know will fail, you being in possession of more data on the subject. You also know that to inform him of this fact, which it is your duty to do, would cause him extreme mental distress, insanity and eventually death. Would you tell a lie then."

"It is against our basic programming to give false or incomplete data," Sister replied. "I would require guidance by another human before making such a decision—"

"Stop ducking the question," said Ross sharply. "Our supposition calls for there being only one human, the one you have to lie to." Then in a quieter, more serious voice he added, "I am trying to teach you the difference between giving assistance and being kind. If I can get the idea across to you, you may begin to think a little more like a human being."

"A human mind possesses free will, initiative," Sister protested. "No robot could—"

"Exercise initiative. But you did it when you awakened me without a brace of Cleaners sit-

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ting on my chest. And since then there have been improvements. The robots have given place to steamships." He laughed awkwardly and added, "That was a pun."

Sister said, "From my reading I know that steam-driven vessels were a later development than those propelled by oars, just as you have caused us to develop since your awakening. But I cannot understand why you used the word "robots" when you should have said "row-boats" unless the accidental similarity of sounds . . ."

That particular discussion lasted for nearly three hours and broke off only because it was time for the lights to go out. To Sister the division between waking and sleeping periods was sharp. In the middle of a sentence she stopped speaking, paused, then finished, "It is time to go to sleep, Mr. Ross. Is there anything you want before I go into low alert."

It was always the same formula and Ross had become tired of hearing it. Bitterly he said, "Yes, there is. I want a human female aged twenty, weighing one hundred and fifteen pounds, dark brown hair, brown eyes . . ." Under his breath he added, ". . . called Alice."

"Your request has been noted, but at the present time we are unable to—" began the robot.

"Good-night, Sister," Ross said, and rolled onto his side.

HE wanted to dream about Alice that night, but instead he dreamed that he was in small, sealed room deep underground where the air was rapidly going stale. If he wanted to go on living it was imperative that he do something, quickly . . .

When Sister finally released him by speaking the magic word "Sir" the First Expedition, as Ross liked to think of it, was ready to go. The same sense of frantic urgency which claimed his waking and sleeping moments alike tempted him to send it out quickly and with no change in the instructions he had already given. But although Sister had forbidden him to do everything else she had not stopped him from thinking, or rather revising his thinking with regard to the purpose of the expedition. He had to consider the possibility that there might not be any other human beings left alive in the world he was proposing to search. If that should be the case Ross would have to take a long term view.

A very long term view . . .

Concluded next month

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a small miracle of fishhooks and straight pins

By DAVID R. BUNCH

It is easy, in our world, to teach lessons of hate and fear. Love is harder come by.

CHAR was a big dog, black as a Tarbaby, but he seemed pleasant enough with a gay plaid pancake cap stitched to the fur of his head, and a bright chain tied to a red plastic band, and the long tongue of him, fuzzy and very scarlet, lolling down. He was the one thing among all of Daphalene's toys that I had not tampered with, had not fixed for lessons. Daphalene? Daphalene was my-daughter Daphalene, a cute baby-girl child with blonde ringlets and a stomach ball-slight over the band of her training pants, and a dour sweet squint as she looked up at me with love, and her mother dead-to-me two years.

Yes, being her one parent left, mother-and-father now, staunch and adamant-true, I had fixed the other toys in the interest of Daphalene's training—pins sticking out of the dollies, and fishhooks in the stuffed things to stick her, and a special strong spring on the jack-in-the-box to slap her head when she played. Also, over all toys was a syrupy stickum, light gum that would itch and burn slightly, and be on the hands black and adhesive, like handling the fresh-cut end of an Xmas tree. Yes, I wanted Daphalene to hurt early and well while playing, to learn that pain comes easily, flowing freely from Everything; she must form that hard crust NOW! Sometimes I thought of her as a fresh little wound in the world, so vulnerable to the harsh grains and the grits, her freshness needing to be scabbed and grayed over. For her safety. Yes, I wanted her to be READY FOR THE WORLD.

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But I wanted her to know love too. Within these baby shells that go across our times of horror must be the seed of love still. Else what? Inside the tended scars we rear to walk more confidently across our planned damnation must be the heart of love kept back, but kept like some deep-buried seedlet ready to sprout, the debris being cleared from the ground, and the sun and rain coming right again.

So the black dog—I wanted her to love the black dog. "He is my best toy," she would say, giving Char a joyful squeeze and lugging him about the dust-balled two-room apartment, where no woman was, where the poor-housekeeper wife had been briefly, briefly-and-long, to leave me with this challenge to the world, a wee thing to cherish and to train in my practical kindness. And my love. —She would carefully circle all the other toys while she hugged the huggable Char. She would laugh a gay chortle until I would glare at her from my dusty chair. She would know then that she had had her time with the easy dog. It was time to be going among harsh, useful toy lessons again.

IT WAS a cold spring night. There was a Good Friday moon, full and pale, through the cracked pane of my high-up northwest window. I was alone. I had read some in some dull work of ancient charmless stories that should never have been told and had turned sleepy in my chair. Daphlene I could hear in the other room, tossing and turning in her high crib as she slept. So this young spring tosses and turns and waits, I thought, waits high up and restless to flower black ice-flowers into the iceberg world, when the frost comes out of its time. So oh-how-many-millions of girl babies wait fitfully in their strange chemistry, to flower ice-hearted ice babies into this glacial age, with ice hearts of men, until sometime that heart coldness must surely freeze along all the world's gray tubes until all is white and proper and dead stone. Unless the debris is cleared, and cleared quickly, for the seedlets . . . of love. And the moon—a Good Friday full cold moon—aloof, maniacal orange-white eye . . . indifferent . . . meaning nothing . . . chill, dead . . . ball . . . of light . . .

I watched, hypnotized, and he moved! From where he lay on his side, just as Daphalene had piled him, with his red-felt tongue lolling at the foot of a doll with ice-blue eyes, Char stretched one black leg. Then carefully, ominously, he rolled to a sitting position and sat eyeing the toys and me, his red tongue streaming out. Like flame, that tongue

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—flame turned to stone, I thought, and melting and streaming. I rubbed my eyes, and I shuddered at this black dog's odd turn.

Carefully, as I watched and could not clear this watching from my head, he circled all the toy pile. Three times. Then he walked among them, slowly, on great fur feet, the big scarlet tongue unrolling out of the caverns of the mouth and the caverns behind the mouth and flow-over all the toys until all the itch and burn had been quite lapped from them. Then with a sweep of a massive foot he crushed the jack-in-the-box until the leering face of jack lay nose-up, frightening without a home. And all the pins and the fishhooks and keen bright nails were carefully pulled from the stuffed toys and the dolls, and the sharp points soon lay all together in a little heap on the floor. And the black dog grinned, a strange grin in the moonlight, before he moved . . . on me . . .

Like a wrecking ball swung at a stubborn structure of brick and masonry stone the sound was. And the harsh noise of my falling among the toys was followed by a chortle of morning gayness. She stood there holding the big black Char clutched fondly in her arms and her baby-girl hands. The little stomach ball-slight over the band of her training pants, the sleep squint yet in her baby-girl blue eyes, she was asking Char if he had been a good doggie and had slept well all through the night.

The scream of winning was harsh and high when, the sleep squint gone, she saw that the box was broken. She was astonished at jack so strange and peeled looking outside his box and springs, and she must have known that he could not slap her now. She was concerned for the stuffed bears and cats and the dollies that I had fallen among. When I arose bleeding, I was surprised to leak two pins and a fishhook from my hands. The other sharp-pointed things from all the toys lay in a shiny small mound where I, standing or sitting or walking in a strange moonlit trance, had watched Char so carefully place them for the little girl who loved him . . . and whom he must have . . . greatly . . . loved . . .

THE END

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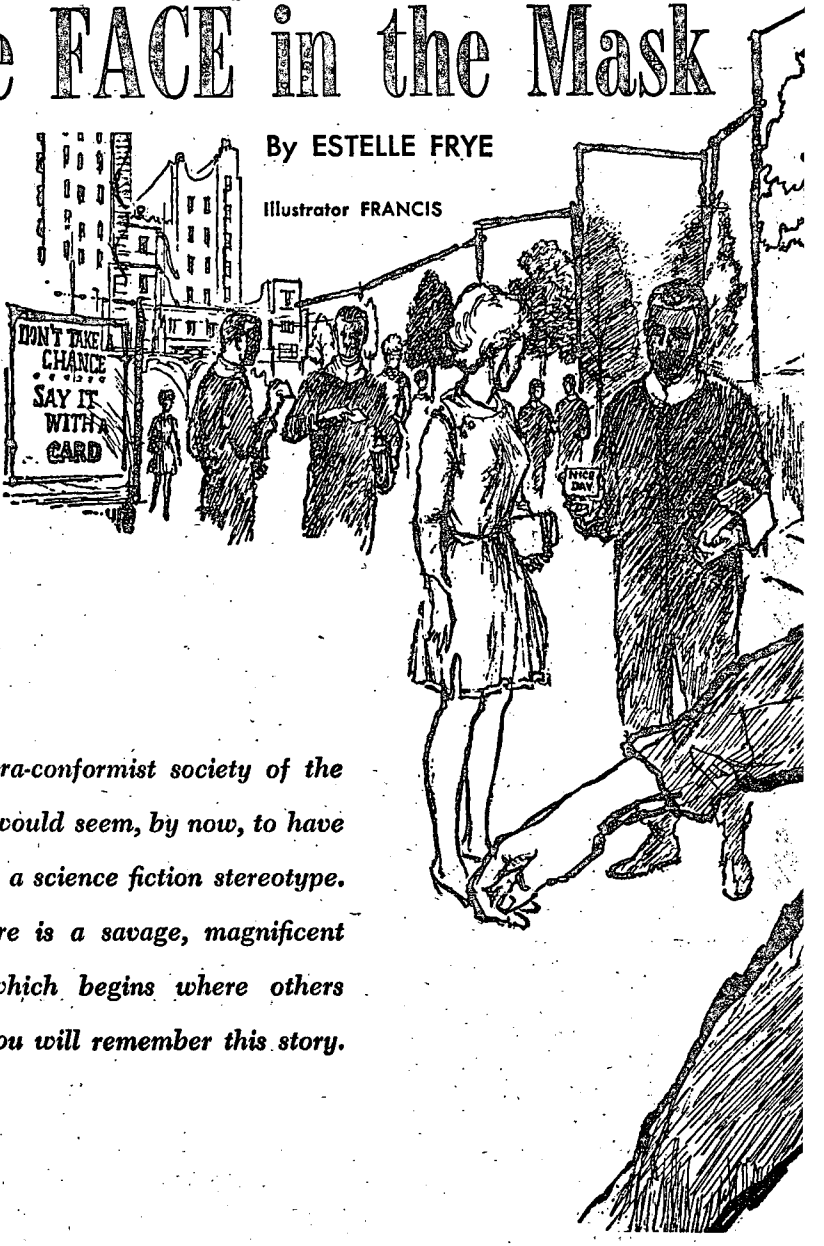
the FACE in the Mask

By ESTELLE FRYE

Illustrator FRANCIS



The ultra-conformist society of the future would seem, by now, to have become a science fiction stereotype. But here is a savage, magnificent story which begins where others stop. You will remember this story.

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JOHN PEEL snapped the shaver back in its slot and pulled down his masker. He was late this morning. The Voice gave a melodious whir and said, "You now have ten minutes to catch your car, John." He slid the masker down his cheek, smoothing the pale gray plastic over his face. Halfway down it sputtered,

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and the liquid came out in uneven drops.

Blast! He fumbled for a fresh tube, took a precious minute to refill the masker. Stripped off the right cheek and started over. Sometimes it could be bonded together, but he didn't want to take a chance on being caught in public with a crack showing.

He gave himself an embarrassed grin at the thought. The mirror with its subliminal message flashing, "You are a handsome and virile male," reassured him. He finished masking, then stared at his face again. His eyes, alive in the gray mask, stared back at him, seemed to ask, "Who am I?" His lips parted slightly and he leaned forward as if to listen for the answer, but there was no reply except the message from the mirror repeating itself a thousand times a second.

The Voice, now strident with alarm, said, "You have five minutes to catch your car!"

He whirled and ran into the sleeping room, snatched up his gray coverall with its gleaming white collar, and threw it on.

It was not until he was on the station platform, surrounded by the grayness of the other masked and coveralled men and the pink that was the women, that he realized that instead of his briefcase of cards he held a piece of toast in his right hand. His stomach, resentful at being left without breakfast, had betrayed him into grabbing the toast from the breakfast slot instead of the card case from its rack.

Oh, well, he thought, *what difference does it make if I don't talk? I never say anything anyway.* Shocked at himself, he glanced hastily at the city mural painted on the walls. The subliminal hidden in the skyline soothed him. "I am going to catch a clean and speedy train to my pleasant place of work," it said. The tension in his stomach subsided. He saw a woman eyeing the piece of toast and stuck it in his pocket.

ABOARD his car he hurried to the men's compartment to eat his toast. As he chewed the dry stuff he wondered resentfully why he should have to hide, though of course he knew it was because chewing might crack his mask. He glanced in his wrist mirror, then went down to the Artists' Car.

Hawkins sat in his usual seat. He nodded at Peel, flipped open his briefcase and pulled out a card reading, "Nice day."

Peel nodded uncomfortably. Hawkins clearly expected some response, so Peel cleared his throat and averted his face. Scarcely moving his lips he murmured, "Forgot my cards."

Hawkins' hand dived into the case, came up with a card read-

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ing, "So sorry to hear it. Know how you must feel."

Peel stared out the window at the Painted Forest. He tried to pick out the pine trees he had worked on, but it was impossible with so many others. He felt tired and out of sorts. Why shouldn't a man be able to find the trees he had painted? He purposely kept his eyes from the sky even though he knew the subliminals there would make him feel better. That was the trouble with working for Scenery. When you were onto it all, it took some of the pleasure out of it. He knew the messages by heart: "I'm lucky to have such a good job." "I'm well paid." "I'm happy." At the little country village they changed to: "I'm going to work hard today." "No wasted time." "I'm glad I'll be doing my part."

The waterfall came into sight. *There was something wrong with that fall,* he thought irritably. He wasn't in water himself, but every time he saw that cascade leaping down the rocky cliff he felt vaguely disturbed. He frowned at it till it was out of sight.

He turned to find a small man across the aisle looking steadily at him. Peel's hand strayed over his mask. Was something wrong? Who was the fellow? Why was he watching him?

No matter. Today, he decided, he was going to paint a drooping branch on one of his pines. He could see it in his mind's eye. He would tip the needles ever so slightly brown. After all, trees shouldn't always be straight and green. Why didn't they understand that? Not much, or the inspector would catch it, but just a little. He could see just how it would be. Then he'd be able to spot it from the train, too. For the first time that morning he felt good.

The Car Voice called his station and he got up and went to the exit, brushing past the Security man on duty. It seemed to him that this man, too, stared at him. His right hand felt strangely empty without his card case.

At work he sketched in the pine tree as he had planned. Glanced covertly around, picked up his brown paint and mixed in a touch of gold. Delicately he lengthened a branch, drawing it downward, touching the tips of the needles with golden brown paint. Just a little, to show the branch was dying, the needles ready to fall.

IN the men's cafeteria at noon the music was on and the Voice would cut in with announcements: "Bowling teams will practice at 7 P. M." or "We have now had 26 days without an accident!" but still there was a barely audible sibilant undertone. Someone was talking. Peel

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looked around, but whoever it was wasn't moving his lips. Cards flashed as men held them up to each other.

At his table it was the ball game. "I think the Dogers will win," read Johnson's card. "Want to bet on that?" Martin's card answered. Johnson held up a five dollar bill. The other nodded. Without his cards Peel was out of it.

There was the little fellow who had stared at him on the train, seated with a big burly man. Peel passed them on the way out. The smaller man held up a card, "How's everything going?" Peel shrugged, showed his empty hands.

"I'm Mitchell," the man said in a low voice. "Who are you?"

Peel tried to look away, but both of them were staring at him fixedly, their eyes bright, and his own glance was caught and held. "Peel," he mumbled, then looked around to see if anyone had noticed him talking. He ducked his head and hurried back to work.

Just before quitting time the supervisor handed him a card: "You're wanted in the office."

There were two of them waiting for him, Security men, their eyes as cold and bleak as their gray coveralls.

The first card read: "You spoke to someone on the train."

Peel turned his face aside. "I forgot my cards."

"Do you forget them often?" the first one asked aloud.

Peel shook his head. *Do many people forget?* he wondered.

"Do you know a man named Barr?"

He shook his head again.

"Are you sure? You were seen with him in the cafeteria."

"Everyone's in the cafeteria," Peel mumbled. "They all look alike."

The second one pounced. "Shouldn't they?"

"No. I mean, yes."

The second one wrote busily on a pad.

"What do you talk about?"

He shrugged. "Nothing."

The two rose; the interview was over. The first one handed him a card. "Remember," it said, "we have ears everywhere."

The lips in the gray masked face parted slightly and he stared straight at Peel as he asked, "Do you want to be declared PARIAH?" Then they were gone.

Peel shuddered. To be PARIAH was to be cut off completely—no one would even give you a card.

He hurried back to work. The gray figures around him seemed to turn their backs. Had that man on the train—Mitchell—reported him? Peel tried to catch someone's eye, but to no avail.

Running for the car after work, he saw Mitchell again, caught his sleeve.

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"Who are you?" he asked in a low, urgent voice.

"Who are *you?*" Mitchell retorted and turned to join the same big man who had been with him in the cafeteria. Together they got on the train.

Peel rode back to the city sunk in gloomy thoughts. Getting off, he made his way to one of the moving sidewalks on each side of the downtown street. The walk was crowded; he had to shoulder his way on. The men and women standing there were silent except for the faint hiss and click of cards being exchanged. Their bodies seemed tense and stiff, and he noticed that most of them would ride to the end of one walk, then transfer to another going back the other way. Like him, they seemed reluctant to go home to their boxy little rooms. At each corner a Speaker was on; music swelled to a crescendo as the corner neared, then dwindled away in the center of the block.

EVERYONE stared at the lighted shop windows. A display of white-collared gray coveralls blazoned, "Everybody's a white collar worker now!" For the women there were pink tunics, window after window of them. "Be a rosy girl," the message flashed electronically. As far as Peel could see, the women were all obeying; their pink tunics fluttered in the evening breeze.

The card shops were still open. In one window a placard asked: "Why take a chance on saying something yourself? Let a card say it for you." Below was a giant blown-up card showing a woman crying. Printed above the anguished face was the legend: "You forgot our anniversary!"

At the end of the store section Peel stepped off the sidewalk, wandered off afoot. On a side street an old woman approached him, pulled out a tattered card. Holding it before him, she peered up into his face. Her mask was half peeled off, the skin underneath dirty and wrinkled. "Can you spare a dime?" the dog-eared bit of cardboard read.

Instead of revulsion Peel felt pity for the woman and even admiration. How had she kept from being institutionalized?

He thrust a silver dollar into her hand. "Here," he said brusquely. "Enjoy yourself."

She gaped at him, and her tired eyes filmed with tears. "Mister," she said in a hoarse and creaking voice, "you're the first person who's spoken to me in weeks. Aloud, I mean." The tears ran down her cheeks. "You don't know what it means. Thanks for the dollar, that was nice of you—but thanks for talking even more."

"Say," he asked, "do you re-

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member when people used to talk?"

"I'm not that old, but I remember my father used to tell me when he was a boy people spoke right up, said whatever they wanted to. Then . . ."

A door slamming nearby made them both turn in alarm, and when Peel turned back to the old woman she was gone, already almost out of sight in the gloom as she scuttled up a side street.

He looked back toward the bright streets behind him. Silhouetted against the light he saw two figures, one small, one large, coming toward him. He hesitated, then plunged on into the darkness.

AHEAD of him, light streamed from a doorway. The sign over it read *Vordy's Place, Talking and Eating House.* He had heard of them but he'd never been in one. They were not really illegal, but they were on the thin edge and every morning he read of one being raided.

He heard footsteps from the corner and ducked in the door. Inside, the air was heavy with smoke, the tables crowded. He sat down at a small table. Spotlights focused on a small stage and a group of girls came on, dancing. At the end of their dance they pulled off their masks, threw them up in the air. Their faces were painted, chalky white cheeks and red lips. The men in the room roared with approval.

Peel slumped in his chair and drank wine. He stared around through the smoky haze. What kind of people were these who talked, ate in public, watched women unmask? A girl walked up to his table. One of the dancers. With a negligent air she handed him a card: "Want to buy me a drink?"

"Sure," he said.

"Well, look who's talking," she drawled. "I didn't think you were the type." Her eyes were knowing, the lids blue-painted, the eyelashes gilded.

He drank some more wine, the girl drinking too. Her pink tunic clung to her body. Below it, her knees curved softly as if they were boneless under the soft and silken skin.

"You're beautiful," he said, "without that damn mask on." His hand reached out to touch her knee.

A sweet smile curved her lips, then froze into a grimace. She barely moved her head, and Peel looked around.

Two figures had paused by the table. "You're Peel, aren't you?" the smaller one asked.

"What do you want?" Peel got to his feet.

"Sit down, let's have a drink together," the big one said.

Peel's mind raced. Were they Security men? He felt knowing

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and crafty. "Order me a drink," he murmured, "I'll be back in a minute." He walked toward the rear of the room, down the hallway to the toilet, kept going till he came to the kitchen, through it out to the alley.

No one noticed him. He raced down the alley, made his way by side streets to the edge of the city. He was afraid to go back to his apartment.

Nearly every one these days lived in the city in the towering beehive apartments. Great walls of painted scenery surrounded the town and lined the speedways. He found a gap in the wall where a board had crumbled and earth had been dug away. Probably children had played here, had scrambled under the walls to adventure. He wriggled through, stumbled across a weed-grown field to a narrow road. The glow from the city behind lit his way. Here and there he could see abandoned houses slowly decaying. When he was tired he walked over to one of them, pushed open the rotting door and slept on the floor within. He woke in the morning, stiff and sore. His clothes were rumpled, his beard was sprouting against his mask.

HE wandered on through the countryside till he came to a little shack of weathered gray wood. An old man sat on a bench in front of it. He wore no mask, his hair was long and shaggy. He had a white beard and was dressed in a shapeless coverall. He was barefooted, his feet gnarled and horny.

Peel stopped. "Good morning," he said. The words sounded shockingly loud.

The old man opened his mouth. "Are you the Beast from the East?" he asked. His eyes brightend and gleamed.

"I come from the city," Peel said.

"Sodom and Gomorrah," the old man said. He got to his feet, bent to pick up a crooked stick. "Don't come near me."

"Wait," Peel said, "I just want to talk. You don't wear a mask."

"Every man wears a mask," the old man said. "The day will come when they shall be ripped from them and the face of the beast revealed." The shaggy head lowered. "Are you a spy?"

"I'm just a man," Peel said. "Here, I'll take off my mask." He was making the ultimate gesture —here under the open blue sky to unmask, to talk to a stranger. The air was sweet and clear. Peel lifted a hand to his face.

"No," the old man said. He cowered away. "I don't want to see your face. Go away. You're a beast set upon me!"

Peel ripped off his mask. "I'm just a man," he said again.

But the old man covered his

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eyes with his hand and brandished wildly with the stick.

"Go away!" he screamed. "Go away!"

Peel turned and walked off. Behind some trees he took out his pocket masker and spread a film of plastic over his face.

He might as well go back; there was nothing for him out here but decay and madness. He trudged back to the city, scrambled back under the wall, went to his apartment to clean up. He was surprised they weren't there waiting for him.

He wasn't going to sit there and wait. Let them come for him at work. He picked up his card case, caught the train, almost empty at this time of day.

No one spoke to him or passed him a card. He came to the waterfall, looked at it with dull eyes. "Who am I?" he thought suddenly.

As he walked through the locker room a small figure moved to intercept him. At his elbow was the big man, his shadow.

"We've been looking for you," the big man said softly. "My name is Barr. We want to talk to you."

Numbly he let them lead him aside to a corner. "Why me?" he asked.

"We saw you noticed the waterfall," the big man said. "That was my work. Mitchell here is in rocks. And you're in trees."

A WEEK later Peel again watched out the window of the car as it sped toward Scenery. There was the grove of birch trees he'd painted, their white trunks standing out amidst the evergreens. They had calculated they would draw attention.

He transferred his gaze to the other passengers. Hawkins lifted his hand and rubbed it irritably over his face mask. There was a little stir of movement as other hands lifted to faces. The subliminal on the birch grove, installed the night before by Barr and an inspector from electronics, read, "This mask itches."

Peel smiled secretly. Even the Security man was poking at his cheek.

Further on was the outcropping of limestone, Mitchell's work. "I'd like to talk to somebody," it flashed. There was an anxious stir in the car. No one spoke, but several men pulled out cards, shoved them at their seat mates. A throat was cleared.

New York wasn't built in a day, Peel thought. Tomorrow he'd speak to someone, aloud. Tomorrow, or the next day, he bet they'd answer.

The last secret subliminal was Barr's waterfall. "Who are you?" it asked as the false water poured down the painted cliff.

Peel sat up straighter. *I'm John Peel,* he thought proudly. *John Peel. Myself.* **THE END**

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I.Q.

By MACK REYNOLDS

Illustrator IVIE

In a time when teaching machines and batteries of educational tests seem to be determining the intellectual nobility of the next generation, this story has meaning for all of us.

ON the way over to the Administration offices Professor Roy Thomas McCord was stopped several times by students and colleagues offering congratulations. He tried to protest their prematureness but they brushed his objections aside. They all knew he'd come through.

He'd expected in the period it would take to stroll to Peterson's office to find time to read a few pages of the book of verse he'd brought along, but he was interrupted often enough that he gave up.

A youngster named Doolittle, an earnest chap in Physics who probably was going to flunk out this term, took off his hat and said breathlessly, "Everybody says you've made it, sir."

"Thanks," Roy said. "Everybody seems to think so but me. Quite the most difficult tests I've ever seen. It should give the I.B.M.s quite a mechanical headache grading them. Good heavens, Doolittle, put your hat back on. Do you think I'm a lady?" He laughed in embarrassment.

Doolittle said earnestly, "Academician. Only the third one this school has produced. And you're hardly more than thirty, sir."

"Well, that's no reason to take your hat off."

"It is for me, sir."

"Oh, get along with you, Doolittle. But thanks, again."

In Peterson's anteroom, Nadine looked up from her desk and beamed at him. "It's all over that you took highest awards, Professor McCord. Or should I say, Academician McCord?"

Roy tried to keep from flush-

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ing. "I haven't heard officially, Nadine. But anyway, the name is Roy, if you'll recall."

"Hardly," she grinned back at him. "We can hardly call the school's only living Academician by his first name."

His smile was a bit on the wan side. "I'm not sure I'm going to like it then." She was speaking in jest but there was all too much truth in what she said.

Nadine said, "Superintendent Peterson is waiting for you. Just go right in." She chuckled her soft Nadine laugh. "In fact, sir, I doubt if you'll ever be waiting in this office for an appointment ever, ever, again. Not even a Superintendent of Deans allows an Academician to wait on him."

"Go on with you," Roy said uncomfortably. "And don't call me sir. You make me feel old."

"Your mother called," Nadine said after him. "Said to be sure you didn't forget this afternoon."

"All right," he said over his shoulder. "Thanks, Nadine."

Adam Peterson wasn't ordinarily the type to gush, but today he was absolutely overflowing. Of course, it didn't hurt the school's reputation, nor his, to have produced a scholar of Roy Thomas McCord's aptitudes.

He shook hands drastically.

Roy said, "Well, I suppose your enthusiasm indicates it's official. All the way over here I've been getting congratulations."

"It's official all right, all right," Peterson glowed. "Sit down, Roy. Here, this chair. Great Scott, man. I suppose I should really call you *sir*."

Roy laughed uncomfortably.

"At any rate, the examinations put you twelfth in the nation. Twelfth! And at the age of . . ."

"Thirty-two," Roy supplied.

"Such a short time!"

Roy took the heavy leathern chair. "Such a long time," he said.

Peterson had hustled over to his small, portable bar and was examining his stock. "A drink, of course. This calls for celebration!"

"Sherry would be fine," Roy said.

Peterson came back with the drinks and handed the new Academician his Spanish wine. The usually glum faced Superintendent of Deans was the one expressing the elation he evidently expected in the other. He took his own chair and beamed. "*Salud!*" he said.

Roy muttered a standard response and sipped at the wine.

Peterson said, "What do you mean, such a long time?"

Roy made a wry face, in self deprecation. "Twenty-five years," he said. And then, with seeming non-relevancy, "Youth."

The older man frowned at him.

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"Great Scott, man, you've reached one of the highest points possible in the Educational Sequence."

Roy looked down into his glass of wine. "Would you believe me if I told you that I wish I'd dropped out somewhere back along the line?"

"Dropped out?" Peterson didn't understand.

The new Academician seemed to change subjects. He said, "By the way, how did I do in Creative Ability?"

Peterson scowled. "Well, you know, Roy, not even an Academician is free to check the exact result of tests. Not unless, of course, it's his task-field. It might give him an unfair advantage in further examinations."

"I know," Roy said wearily. "I just meant broadly. In relation to my other ratings."

Peterson said uncomfortably, "Actually, it was your weakest, Roy . . ."

The Academician winced.

". . . with Mathematical Aptitude strongest. Somewhat to my surprise, your M. A. was the nation's highest."

"Why surprise?" Roy said, depressed.

The older man shifted bulky shoulders. "Well, your work here while adequate, of course—always adequate, of course—has never shown the absolute genius in the field that your aptitude would indicate."

It was Roy's turn to shrug. "Well, as you know, aptitude doesn't mean that you will ever use it. Frankly, mathematics bore me."

"And me," Peterson chuckled. "But, to get on to business. I suppose we shall have to provide you with a larger suite of offices. You'll be able to take over some of the social duties of the faculty officers, Roy. In fact, there's a delegation from . . ."

Roy interrupted. "I don't suppose there's any manner in which I could drop away." His tone indicated that he didn't expect an affirmative answer.

Peterson's enthusiasm fell off in one split second. He all but gaped. "Drop away!" he blurted. "You mean leave the university? Drop away! You're considering deserting us for another school? Great Scott, Roy . . ."

Roy McCord was shaking his head. "Not just this school, Adam, education as a field. My rank entitles me to retirement at my own discretion."

"Retirement! You're not even forty years of age! Roy, the strain has been too much. You need a vacation. Retirement! Great Scott . . ." The Superintendent was on his feet again. He grabbed the sherry bottle from the bar, hurriedly refilled the other's glass. "A vacation! Perhaps to Common Europe. You'll be feted in every univer-

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sity on the continent. An Academician at the age of thirty-two. The Education Sequence of Europe will be at your feet."

"That's what I'm afraid of," Roy said bitterly. "I'd never see anything except the insides of schools, never talk to anybody but a bunch of doddering old scholars."

PETERSON sank back into his chair again, aghast. "Roy! What are you saying? You sound as though you have no affection for your Sequence."

Roy McCord snorted. "Frankly, I haven't. Is that unknown?"

The Superintendent collected himself. "Not unknown, of course, but certainly rare. From your earliest youth you've been carefully tested, rated, channelled in the direction your aptitudes indicated. Had you been mechanically inclined, you would have eventually wound up in a Sequence where your abilities would have best suited you and the nation. Had you shown aptitude for medicine you would have eventually been channelled into that Sequence, finally gaining the level your competence permitted."

Roy said bitterly, "And had my Creative Ability so indicated, I might have wound up a poet."

Peterson said uncomfortably, "Actually, your Creative Ability is high, not fantastically so, but quite high. It's just that it is so eclipsed by your other aptitudes, Roy. But, I don't understand. You've reached the heights in our Sequence, in the field of education. What would you rather do?"

"I think I would rather be a poet than the world's most celebrated scholar, Adam."

"A poet!" The other grunted sceptically. "Your aptitudes indicate that even had you gone into the artistic field, your work would hardly startle the world."

"Nor would I expect it to, or necessarily want it to. Why must the greatest painters work in oil; what is wrong with the sketch, the watercolor? Listen." He took up the book he had been carrying under his arm and read.

"Jenny kissed me when we met,
Jumping from the chair she sat in.
Fate, you thief, who loves to get
Sweets into your list, put that in.
Say I'm weary, say I'm sad,
Say that health and wealth have missed me.
Say I'm growing old, but add,
Jenny kissed me."

"Very sweet," Peterson nodded. "Seems to me I recall it from my own student days, but I forget the poet."

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"Leigh Hunt," Roy said. "A little poet, eclipsed by his contemporaries, Keats, Shelley, Byron. But, frankly, I prefer the little poets." He added softly, "I would prefer to be an Emily Dickinson, a Stephen Crane, a Thomas Hood."

"Look here," Adam Peterson said. "Let's face reality. All of us have hobbies, methods of relaxing from our work. Write your *little* poems in your leisure hours. Why not? But your *field* is education, and you are a phenomenon in it."

Roy McCord was shaking his head. "You can't. Or, at least, I can't. You need relaxation. Your mind free of all except your creative urge. You need to be able to spend long hours in the shade of a tree, or on a shell strewn beach, or perhaps in watching without distraction of any sort the twig of a maple, ridged inch deep in the pearl of snow. If I were to be a poet, I would have to be *all* poet. Just as today I am all scholar."

Peterson was on his feet and pacing. "See here, Academician McCord. You can't drop out of this Sequence at your age. You owe it to your fellows, to society, to continue."

Roy looked at him flatly. "I do?"

Peterson said, "I'm going to reiterate some truths which you already know, but which perhaps need repeating. For the first time in the history of civilization, man has achieved a society in which he assumes his place according to his ability and by no other means. There is no ruling property class, no priesthood, no militaristic state to arbitrarily decide our status. It makes no difference who your parents were, nor how much treasure you might have accumulated by whatever means; you take your position in our culture according to your aptitudes."

"No test is perfect," Roy muttered.

"Of course, and that is why we continually work to improve them. Actually, they have reached a high level of competence. The tests are compiled by men but are given and evaluated by machine, and there have been no known cases of mistakes within recent memory. Roy, this system works, and it's good. In the past, a man had status in his culture based on the most fantastic of reasons. Prime among them was the possession of money, possibly the greatest status symbol of all. Also ranking high was the position in society of your parents and relatives. The extreme example of this, of course, was the feudalistic nobilities in Europe and elsewhere, but it also existed in the United States especially in New England and the South.

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"Today? Today, Roy, you achieve status by your own abilities. Long ago man solved the problem of the production of abundance. There is no poverty, everyone possesses all he needs. We can no longer award our geniuses, our heroes, with wealth —since there is wealth for all. We honor them, instead, with rank. Each man contributes to society what he can and those who can contribute more, through their greater abilities, their genius, are awarded with such titles as Doctor, Supervisor, Superintendent, or, in our own Educational Sequence, Academician."

The Supervisor of Deans went on. "You have been so highly honored, Roy McCord, because our tests indicate your aptitudes as high as any. But for you now, after twenty-five years of continual studies, to drop away and not utilize your abilities would be a betrayal of the hundreds of thousands, the millions of our citizens who, because their aptitudes were less than your own, work in the mines, in the mills, and in the fields. They contribute their share to society so that persons such as you and me, in a different and possibly gentler Sequence, may eat, be clothed and sheltered."

Peterson summed it up. "You have the *right* to retire on your rank at this stage, Academician Roy McCord. But I don't think you will be able to do so."

Roy stood up wearily. "No, I suppose you're right," he said. He looked down at the book of verse and said, irrelevantly, "I've often wondered what the Acropolis looked like by moonlight."

AS he left the Superintendent's office, Nadine said to him, "Your mother called again, Roy . . . ah, Academician McCord. She said to remind you that . . ."

"I know, I know," Roy said almost tartly. "She's having in all her friends and neighbors for a celebration."

Nadine looked up at him. "Well, I'm not surprised. How many of her friends have a son who has won your honors?"

Roy sighed. "Yes, and how she revels in it. It was bad enough with my Doctor's degree. But now!"

Nadine laughed at him. "Go and take your medicine, Hero."

He grinned ruefully in response and left.

His father met him at the door of their suburban house. Actually, as a Senior Technician Warren McCord wouldn't ordinarily have resided in this part of the city. Even in this advanced society, rank had its prerogatives; perhaps few, compared to cultures of the past, but still prerogatives. One of them was to segregate itself, and that, of course, was un-

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derstandable. An artist who had reached the heights found his most compatible companionship among doctors, scientists, educators who had achieved the equivalent in their own fields.

This was a neighborhood that reeked with prestige, and the McCord family resided here as a result of Roy's fantastic progress in the Educational Sequence.

Actually, Roy McCord would have preferred to have lived in a more Bohemian quarter where he might have found time occasionally to associate with the off-trail artists who were his envy. Each culture, and each generation of that culture, has its equivalent of a Lost Generation, a *beatnik* element, or its Angry Young Men. Within himself, Roy didn't find it difficult to identify with them. Whenever he paused in his work to realize this, he had to smile in deprecation. What would Peterson think if he knew it; and, above all, what would Dora McCord, Roy's mother, think?

Warren McCord, a man of not quite sixty, looked an older version of his son. There was the same weary, rueful—perhaps wistful—expression that so easily broke into a smile for another's sake, but failed to indicate happiness within.

He grinned sourly at Roy now. "You're in for it," he said. "Every biddy your mother has known for the past thirty years—ever since you were born—is in the garden."

"Good Lord," Roy muttered.

His father looked at him oddly. "Congratulations, son." He held out a hand to shake. "You don't seem overly pleased by your accomplishment."

Roy said irritably, "Accomplishment? What accomplishment? The only thing that's happened is that the grading computers have informed the Educational Sequence that I have one of the highest aptitudes in the field. That doesn't mean I've accomplished anything."

His father looked away, as though embarrassed. He cleared his throat and said, "No one in your family, on either side, has ever attained such an honor."

Roy felt contrition, although he didn't exactly know why. "Well," he said, "I hope that I'm able to deliver something in keeping with what those damn testing machines seem to think I'm capable of."

Warren McCord said, "You don't really have to worry about that, you know. Not really. The computers might indicate a man has great aptitude for scientific research and he might be placed in a position to utilize his abilities—but that doesn't necessarily mean he'll come up with some startling new discovery. It all works on percentages."

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"I suppose so," Roy sighed. "Well, Dad, let's go face the celebrity hunters."

IN the garden, Dora McCord was beaming with a radiance that almost made up to Roy for the grind of the afternoon. Long years ago he'd explained to himself that she was a status seeker of a type that should have become extinct a century or so earlier. All her life she'd been depressed by the lack of her husband's ability to rise above the rank of Senior Technician. Actually, Roy suspected his father had gone further than his real abilities in achieving even that rank. Only by exertion far beyond the call of duty, and far beyond that of his fellows, had the elder McCord achieved to Senior Technician. He was proud of the attainment, small as it was.

But not Dora McCord. Roy's frenetic and lovable mother was a worshipper of the prestiged. She never made a mistake in calling a man by his correct title, never failed to attend local ceremonies honoring an attainment, and most of her reading was confined to contemporary biography. It had been a cruel blow to her that the man she loved was simply not cut out to reach the highest positions of the nation. A cruel blow.

Now she hustled Roy around like a destroyer convoying a carrier. Her introduction varied little. "My son, the Academician Roy Thomas McCord," or "May I present our family's new Academician . . ." As though, Roy told himself wryly, family members of that rank were a common occurrence. Actually, of course, there weren't another half dozen men of his status, in whatever field, in this city of millions.

After an hour or two of this battering, his father got him to one side long enough for a glass of sparkling wine.

Warren McCord said, "Your mother is a remarkable woman, Roy."

Roy swallowed the wine, put the glass down and wiped his forehead with a handkerchief. "Thank heavens there's no further for me to go," he growled.

"No," his father said thoughtfully. "Academician is about it, unless you went into national administration."

"Um-m-m," Roy said. "He looked at his father and frowned. "Dad, when are you going to knock off?"

"Knock off?'

Roy said, "You're pushing sixty. You could have retired ten years ago. Could have moved to a gentler climate than this."

His father shifted his eyes, poured them both another glass of the cold, sparkling wine. "I

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suppose I should. In the past, well, I think your mother would have hated not to be here as you continued your advances in your Sequence, Roy. And although I was never able to meet the grade, in your mother's eyes, I've certainly not begrudged her the glory of seeing you do it."

Roy looked at him. "You love her, don't you Dad?"

Warren McCord laughed with characteristic wryness. "Yes. She's a vain little thing, a pusher. An earlier and less kindly era would have labeled her a social climber. But, to answer your question—yes, son, as far back as I can remember, I have loved your mother."

He switched subjects. "With this new rank, what will your duties be, Roy?"

Roy McCord shrugged distastefully. "Showing off for the university, for the most part, I suppose. Attending an endless number of banquets, conferences, congresses and what not. Heavens knows, my field is one where you're not hard pushed to prove the aptitudes the grading computers rate you." He snorted. "Now you're different. As a Senior Technician, the only possible way you could attain your rank is by having it on the ball, right on the job. You can't fake there, surrounded by your fellows."

His father said uncomfortably, "It's not a very high rank." He scowled, then added, "You don't seem very happy about this new position, Roy."

"Why should I be?" the other grunted. "Lots of prestige, which turns out to be something that doesn't particularly interest me, but little, if any, satisfaction in the work."

His father was still scowling. "But what would you rather do?"

Roy shrugged it off. "I don't know. I suppose I'd like to take a hiking tour of the wine provinces of France and Spain." He looked down into his glass. "See where this product comes from. The vineyards, the bodegas. Perhaps write about it a little."

His father was staring at him. "You know, I'm not sure we've ever really gotten to know each other very well, son. I . . . I never went very high in my Sequence, but I've always liked the work. You've climbed right to the top, but you evidently hate it. Somehow, I never really realized that."

He was obviously depressed.

Roy chuckled ruefully, "Well, there's nothing you could do about it, Dad. I have a confession to make to you. All my life I've wanted to be a writer. Not a big name, not a high prestige author of the type we've got in this neighborhood, but an easy going, you might even say lazy, poet observing the remnants of

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nature that man has still left on this globe of ours and trying to get the feeling of it down on paper."

His father was staring at him, with a sadness in his eyes.

Roy laughed again, to cover. "I suppose I've had too much of this wine. At any rate, to get back to you. So you think you might retire at last? Those I.B.M. machines can do without you, Dad. Nobody is indispensable."

"Yes, I suppose you're right," his father said, something still wrong with his voice and his eyes.

Dora McCord came sweeping up with one of the neighbors in tow. "Roy, dear," she said fondly, "Mrs. Worthington, you know, her husband is Doctor Worthington, wants to congratulate you."

Roy muttered banalities in answer to those he heard.

Mrs. Worthington said smilingly, "Isn't it amazing what genetics will do? Here we have a simple mechanic and his son achieves to one of the highest ranks in the field of education."

Roy saw his father wince, and his mother bridle.

Roy said flatly, "Being a Senior Technician in charge of repair of some of the most complicated computing machines in the country is hardly the work of a simple mechanic, Mrs. Worthington. I doubt very much whether either your husband or I could do more than make fools of ourselves were we exposed to the tasks involved in repairing such equipment."

"Please don't misunderstand," she stammered uneasily.

"We didn't misunderstand," Dora McCord said.

It was at that split second that the realization came to Roy Thomas McCord.

IN the morning he gave Nadine a ring and when her face lit up the screen he said to her, "Nadine, I don't want to talk to him myself—he probably has a dozen things for me today ranging from talks with the TV press to lectures to students and faculty on the necessity of buckling down and raising the standards of the university—but I want you to tell Superintendent Peterson I won't be in today."

"Won't be in!" Nadine wailed. "But, Academician McCord, we're already swamped. The Civil-Mayor has a luncheon . . ."

"Call me Roy," Roy said, "and look here, I'm going to phone you again later in the day and ask you one of two questions."

"One of two questions?" she said vaguely.

"Yes. It will either be, how about having dinner with me tonight? or, will you marry me?"

She blinked at him.

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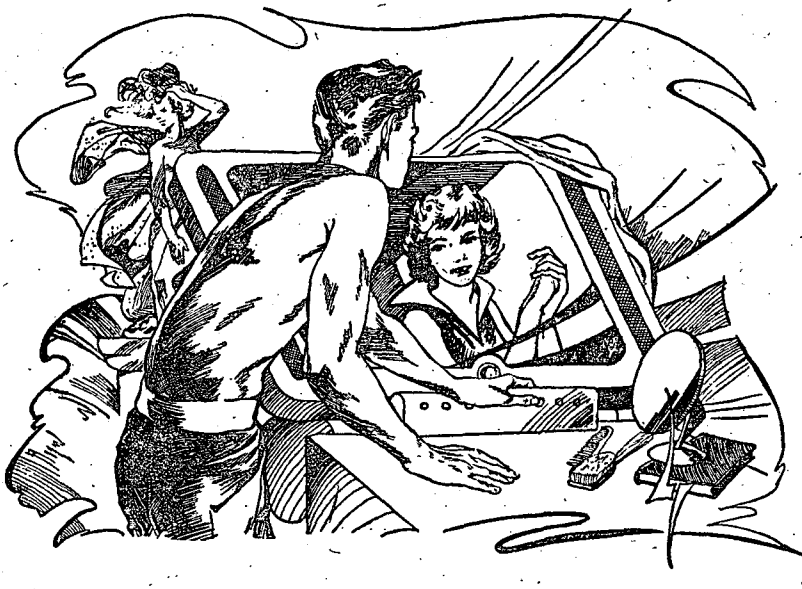

She said finally, "I don't think that's funny, Roy. Any woman in the country would be proud to have dinner with you—or marry you. On the face of it, I'm only a Senior Effective."

"An impressive rank, considering your youth," Roy said definitely. "I'll be calling you later." He broke the connection.

At the Bureau of Records, Academician Roy Thomas McCord was received with a flutter. The secretary of Superintendent Frol Plovdiv hastened to explain that her superior was in conference but that it wasn't important and she'd immediately inform him of the Academician's presence.

Roy said mildly that he could wait.

She wouldn't hear of it. The Superintendent would be indignant.

He was in the other's office within minutes.

Superintendent Plovdiv was a man in his early middle years and reminded Roy of Adam Peterson. Was there something in these administrative positions that called for such types? He looked like a man who would be difficult to work under but who'd be the height of cooperativeness with his equals in rank, and almost, not quite, subservient to his superiors.

He congratulated Roy with booming sincerity.

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Roy came directly to the point as soon as they were both seated. He said, "I've developed an interest in the nation's aptitude tests and although I am not yet too clear in my own mind just what my possible investigations will consist of, I'd like to ask your cooperation."

"Our facilities are all yours," Plovdiv gushed. "Could I assign you an assistant? Someone to devote full time to your needs for as long as you require."

"Perhaps that would be a good idea," Roy said. "However, would you have the time, right now, for some preliminary questions I'd like to ask?"

"I'll be honored to make time, sir."

Roy continued thoughtfully. "Of course, in my field we are already acquainted with the nature of the aptitude tests. In fact, the Educational Sequence composes many of these. However, it has not been my own particular specialization and I would like to go further into the matter. Since at this time I am rather full of my own recent examinations, I think that might be a good point at which to begin."

Plovdiv pursed his lips. "Of course."

"Now I understand," Roy said, "the security involved in the Bureau of Records. Your discretion is justly famed."

Frol Plovdiv was expansive. "In your case, my dear Academician, ordinary precautions obviously won't apply, especially since you are aiming your researches in this direction."

Roy nodded his thanks. "Then I wonder if I could ask some questions about my own record?"

Plovdiv was already flicking a switch. "Ruth. A precis of Academician McCord's aptitude records. Immediately, Ruth."

The communicator said, "Immediately, Superintendent."

While they waited, Frol Plovdiv leaned back in his chair. "It's quite an honor to have an Academician in our city," he said.

Roy smiled wryly. "What is there to say to that? In the old days, to obtain the respect of his fellows, a man achieved something in whatever his field might be. Today, he periodically takes machine given tests and is acclaimed according to how some highly intricate computers grade him."

The Superintendent smiled. "The way you put it, the old system seems more reasonable."

"Of course, there are ramifications," Roy admitted. "In the old days, many a genius must have lived out his life in squalor, never to come in contact with the particular field in which his aptitudes lay." He added, musingly, "I wonder how many po-

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tential poets died in the textile slums of Birmingham while *Lord* Byron and *Baron* Shelley were able to pursue their art in security and even luxury."

"That's the point," Plovdiv nodded. "In the past, you might become a monarch of an Empire as large as England's simply because your father before you held the position. You might become a general, or an admiral, because your family wielded enough influence to send you to the nation's military academy. You might become head of a great industry, because you inherited wealth. You might attend one of the world's great universities simply because your family was born into a high status group."

Ruth entered at that point with a bound file and handed it to the Superintendent. She smiled awkwardly at Roy McCord, did everything short of dropping a curtsey, and returned to her own office.

Plovdiv laughed tolerantly. "I'm afraid you're quite the highest ranking citizen Ruth has ever seen, Academician. She'll probably ask for your autograph as you leave." He looked down at the papers before him. "Now then, what did you wish to know?"

Roy pursed his lips. "For instance, my Creative Ability records."

Plovdiv flicked pages. "Possibly you know, Creative Ability is rated on one of the older systems. Average is 100; 100 to 110 is Good; 110 to 120 is Very Good; 120 to 130 is Superior; 130 to 140 is Very Superior; and above 140 is Gifted. We don't particularly like the term genius, it has been widely misused."

"Um-m-m," Roy said. "And my rating?"

Plovdiv cleared his throat. "Theoretically, of course, this information shouldn't be available to you."

"Of course."

Plovdiv said, "It's your lowest rating, Academician McCord. You have a Creative Ability aptitude of 124."

"I see," Roy said. "And, ordinarily, suppose as a youth I had decided to go into the arts? To study, say, writing? Perhaps verse."

"With that aptitude, my dear sir, you would have had no difficulty whatsoever in beginning as an Apprentice Effective in the arts." He laughed sourly. "I would say that our aptitude tests are least accurate in this field. We do what we can, but we are continually betrayed when a great composition is written by someone with supposedly little aptitude for music, or a whole new school of painting developed by someone who our machines would contend should be

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putting second coats on barns."

Roy said slowly, "And my other grades?"

The Superintendent shrugged hugely. "My dear Academician, you are gifted in every other test we have devised."

"*Every* one?" Roy McCord was somewhat taken aback.

"You are quite a phenomenon," the other nodded.

"And how far back do the records you have there go?"

"Certainly you must know that your tests are from earliest childhood."

"And even then?"

"By your fourth year it was definitely seen that your case was quite unique and you ultimately due for the nation's highest honors."

"I see," Roy said. "Ah, I'd like to think further about this before going on. I wonder if I could take advantage of your earlier offer and have assigned to me a guide to take me about the establishment?"

"Immediately," Superintendent Plovdiv said. He flicked a switch again.

HE let the bright young Junior Supervisor give him the complete treatment. Up one corridor, down another. Through this department, through that. Down long banks of impressive, unbelievable looking machinery. Long files of punched cards, endless cans of tapes. Chattering automatic typers. Endless rows of Effective and Junior Effectives manually punching cards, reproducing them, interpreting them, sorting and collating them.

Roy McCord allowed himself the comments he assumed were standard. In fact, after an hour or two his guide had run the gauntlet from awe at the other's standing, to a slightly tolerant superiority. Each man to his own field, Roy thought wryly.

Finally, the new Academician said to the other, "I wonder if it would be possible for you to leave me on my own for a time?"

"On your own?" the Junior Supervisor said blankly.

Roy smiled at him. "I'd like to observe the Electives at work without them being so self-conscious. When they see you conducting me they freeze up. Obviously, I'm a—what was the old term?—VIP, being given the royal treatment."

"I see what you mean," the guide said. "Well, let's see, the Superintendent said to treat anything you request as an order from him. I'll be in the cafeteria when you need me again."

"Fine," Roy said. "And thanks."

The other went off and Roy McCord took up his wanderings again. From time to time he made an inquiry from one of the Effectives.

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Finally he found him.

"Hello, Dad," Roy said.

Warren McCord looked up from his work, startled. "Why, Roy. What are you doing here?

Roy said, "No use fencing around at this late date, Dad. I've discovered why you failed to retire almost ten years ago, when you were first eligible."

His father came to his feet, from the machine he'd been dabbling with, and cleaned his hands with a bit of waste. He looked at Roy warily.

"Oh?" he said.

Roy said, "I'm not going to ask you *how*, I assume I wouldn't understand even if you told me. I've seen enough here to realize that probably not one citizen in a thousand has even the faintest idea of the complexity of it all. But I would like to be sure I know *why*."

Warren McCord said wearily, "I suppose I could say something stupid such as I don't know what you're talking about, but as you say, it's rather late in the game to fence around."

"But *why*? I think I know, I just want to be sure."

His father said, "I suppose I could blame it all on your mother, Son. Say that I did it all for her so that she'd enjoy the prestige I wasn't ever able to bring the family." The older man hesitated. "But that's not all. It was for me too. I worked hard to get no further than I am. But what was it Mrs. Worthington called me? A simple mechanic."

Roy said bitterly, "At least you deserve your rank, Senior Technician. It's not to be scorned. What do I really deserve, Dad?"

His father looked miserable. His eyes went to the floor. "Actually, your aptitudes are quite high, Roy. I wouldn't have dared to tinker, otherwise you would have been shown up."

Roy McCord took a deep breath and said tightly. "Just one thing. My Creative Aptitude. How do I rate there—really?"

His father scowled at him, his eyes still wary. "Actually, that's the one test I never messed with, Son. It's your highest. I figured if I made you a genius in *everything* it might look suspicious."

Roy McCord's face broke into a bloom of pleasure. "That's fine," he said, "that's just fine."

His father looked at him, astonished.

Warren McCord began to gush an incoherent apology, but his boy took him firmly by the arm. "Listen, Dad, any confessions to the authorities at this point wouldn't accomplish anything, and might do a great deal of harm to innocent people—including mother. Now listen to me.

"Tomorrow I want you to apply for retirement. What you do

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then is up to you. You've really always wanted to spend your final years in the South. Possibly that's what you'll do."

"And you?" his father said anxiously.

"I'm going to drop out of the Education Sequence. Drop all my academic honors and make a new start. I'll tell you about it later." He grinned again at the old man. "Don't worry about it. I'm certainly not."

He started down the line of chattering I.B.M. machines, saying happily over his shoulder, "See you later, Dad. I've got some business."

NADINE looked up from her auto-typer and smiled her Nadine smile at him. "You were tight this morning, Academician McCord," she accused. "You didn't know what you were saying. Your mother must have had quite a celebration for you last night."

He said, "Not as big as the one you and I are going to have tonight, and the name is Roy."

"Ah, ha," she said, keeping it light. "So that's the question you decided to ask—have dinner with you. You can hardly expect a Senior Effective to be gala-vanting around with an Academician. What would people say? You'd be accused of pulling your rank to overwhelm a poor . . ."

Roy said, grinning mockingly at her, "That's why I'm resigning my Educational Sequence prerogatives. Tonight, at dinner, under the proper romantic setting, I'm going to propose to you. But I'm giving you fair warning, it's going to be a step-down for you. By that time, I'll be a lowly Apprentice Effective in the Creative Arts Sequence."

She blinked at him.

His face went thoughtful. "We'll have to think about the honeymoon. What do you say the South Seas, or perhaps Greece? You know, I always wanted to see the Acropolis by moonlight."

THE END

EDITORIAL

(continued from page 5)

What does Poves do all the time? He farms during the day. At night, when others sleep, he passes the time, he said, talking to the cows and horses in the stable. Understatement of the year was his comment to the effect that "If I slept I'd be just like anyone else. This way I'm a little different."

We offer the total insomniac who talks to animals as a basis for a plot to any writer—free, gratis; only catch: *Fantastic* gets first look at the resulting story.—NL

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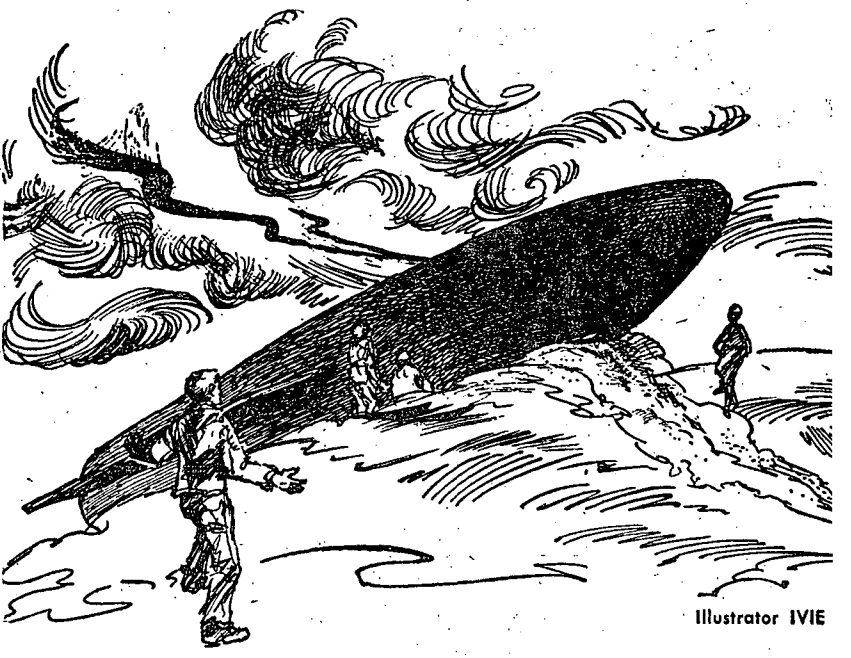

Illustrator IVIE

the COSMIC RELIC

By ERIC FRANK RUSSELL

Introduction by Sam Moskowitz

ANY list of modern greats of science fiction would have to include that of Eric Frank Russell. Mr. Russell has come a long way since his adroit imitation of Stanley G. Weinbaum caught the public's fancy in The Saga of Pelican West *which appeared in* ASTOUNDING STORIES, *Feb., 1937. Since then, such tales as* Sinister Barrier, Symbiotica, Metamorphosite, Dear Devil, Mechanistria *and* Dreadful Sanctuary *have influenced more writers than they have followed. Because writing science fiction is an occasional compulsion with Mr. Russell, his tales appear sporadically.*

Up until now, few people outside of Great Britain have had the

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opportunity to read one of his most effective novelets, The Cosmic Relic. *This story appeared in a shortlived British fantasy magazine appropriately titled* FANTASY. *It was published as* Relic *in the April, 1947 issue of that publication (the second of only three numbers) and never reprinted. Hardly 100 copies of the magazine in which it appeared ever reached the United States. To all intent and purpose it is a newly published story. When published in the British magazine it was voted the most popular story in the issue in which it appeared by a healthy majority. The Cosmic Relic is no period piec.e It is a modern science fiction tale that can compete on its own with the current output and it deserves a wider audience.*

THE SHIP of space lay silent and enigmatic on top of Douglas Head. Its tail pointed outward to the Irish Sea, its nose inland to smooth hills golden with gorse and patched with heather. Except for the constant wails of inquisitive seabirds, the noises all about it were murmurs. There were the murmurs of the holidaymaking multitude on the promenade far below and a mile

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away. There were the murmuring, furtive undertones of the armed guard about the ship, uneasy in their speech, uneasily smoking frequent cigarettes, uneasy in their nightly dreams, and constantly apprehensive of what might suddenly burst forth from the belly of this strange invader and seize their very souls. Finally, there was the continual murmuring lap of the restless and everlasting sea.

The local papers had gone to town over this. The incredible invader had landed at ten-thirty in the evening of Friday, just too late to catch the weekly editions. Extra-special issues were rushed out on Sunday. Reporters and photographers, sub-editors and printshop men, long bored with accounts of local weddings, town's meetings and wordy film reviews, chased around, worked overtime, and illogically consigned all Martians to perdition.

According to the few eye-witnesses who chose to speak, the strange vessel had not made a spectacular performance of its arrival. There had been no flare of blazing gases trailing a fiery wake into the astounded heavens, no thunder of mighty rockets to shake the island from end to end. On the contrary, it had emerged from the night clouds and descended with surprising slowness in a long, gentle sweep which brought it quietly to rest within a hundred yards of the Douglas Head Hotel.

The number of witnesses must have been considerable, but only those had come forward who had long ridded themselves of such superfluous luggage as inhibitions. The rest desired to be asked no questions that might call for carefully calculated lies. The Manx are notorious for their blatant disbelief in the attraction of manufacturing daisy-chains on Douglas Head under a full moon.

So the few excited accounts vouched that the ship had come like a thief in the night, and the local papers whooped it up. London journals frantically rushed out plane-loads of reporters, special correspondents, rocket experts and other characters. *Your Future* contributed two astrologers. *The Muscle Builder* despatched a broken-down pugilist who could spell. The leader of the Blessed Ones of Judah announced the beginning of the Millennium and set out for the Isle of Man to welcome the new Messiah. The local agent for Magic Molar Polish hung around in the vain hope for somehow cozening a sworn affidavit that only Magic Molar Polish had been used on the cosmic voyage. And the *reductio ad absurdum* came when Miss Purity Weggle, spinster, fifty-five, cancelled her holiday, hurriedly packed her

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trunks, donned an extra pair of flannel bloomers and set sail for home before anything could emerge from the ship and take after her, hungry-eyed.

From which it may be gathered that the arrival of the spacecraft was an event in the proper sense of the term. But there was nothing to suggest that anyone on board was remotely aware of the importance of the occasion. While turmoil spread around it, Weggle-like idiocies repeated themselves, and ripples of excitement passed to the far corners of the earth, the vessel lay there sealed and silent as if prepared to repose thus for a million years to come. In the first twenty-four hours, rubber-necking holiday-makers pushed and shoved around it. They tapped on its metal walls, knocked on its metal tail, shouted at it, argued about it, called it names, and departed when their tongues were dry and their stomachs empty.

Judiciously, the Lieutenant-Governor intervened, placed an armed guard about the arrival and kept the crowd at a discreet distance. The guard didn't especially care for the job by day, and they liked it a good deal less at night. Each nursed a private, unspoken theory concerning giant green spiders which were nocturnal and carnivorous. But nothing disturbed their anxious nights except their own random dreams, the ceaseless surge of the ocean, and the wails of night-flying seagulls crying like lost babies beyond the cliffs.

ONE WEEK after landing, the vessel was still reposing at the inland end of the furrow which it had scored upon plumping to earth It had been talked about, photographed from every conceivable angle, featured on the films, cursed by its guards, lectured upon by two astronomers and one holder of the secret of the Great Pyramid, and finally tendered for by a prospective purchaser who wanted to exhibit it at an international fair. A certain Antonio Pietro Fizzo, having set up an ice-cream stall on the road to Douglas Head, did a roaring trade and petitioned the saints to insure that this sphinx-like thing remain there forever. Without any visible encouragement from higher planes the vessel appeared likely to satisfy Signor Fizzo's heart's desire.

A month rolled past. By this time the world's leading crooner was gripping everyone with a topical and treacly dirge entitled *My Martian Mammy*. The I.O.M. Steam Packet Company was running special Mars trips from Liverpool, Heysham, Silloth and Belfast. Purple velvet spittoons and crimson pom-poms on their brims appeared in the crazier hat emporiums under the guise of

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Martian headgear. Photographs of Mars became popular postcards, and in the kids' comics Buck Rogers and Superman promptly emigrated to the Red Planet. In London's salubrious suburb of Hackney Wick, the twins of a Mr. and Mrs. Higginbottom boobed badly in picking this time for their arrival and got saddled with the names of Phobos and Deimos for their pains.

The slumbering benches of Commons stirred uneasily when an annoyingly wakeful Independent drew the Prime Minister's attention to what had happened in the Isle of Man. The benches were soothed by the lulling drone of an official reply to the effect that the Government was awaiting an official report on the matter, upon receipt of which the appropriate department would deal with it. No further statement could be made at present, but the honorable and gallant member could rest assured that everything that could be done would be done, and if the House so desired an official commission would be set up to investigate the matter.

For some inexplicable reason, this parliamentary episode stuck out from the welter of ballyhoo and had repercussions. *Depêché de Toulouse* editorialized that the British roused from their hibernation. New York's *Daily News* published a dark and sinister article depicting bureaucrats swapping memos marked "For your attention" and "Referred to you," and broadly hinted that these delaying tactics were part of a crafty scheme by which the British hoped to grab trans-spatial concessions and get a lien on the cosmos to the detriment of American free trade and enterprise.

It was at this point that the Manx demonstrated the superior commonsense of small nations by taking matters into their own hands. After a brief discussion in the House of Keys they forwarded to the Chancellor of Liverpool University an invitation to send two experts competent to deal with the mystery ship. The experts were to work under the aegis of the Manx executive and all expenses would be paid. The Chancellor responded by sending Philip Bradley and Ronald Hume. Within fifty days of the spacecraft's arrival, the dispatch of these two was the first move to disturb its cold serenity which seemed likely to remain forever.

PHILIP BRADLEY got out of the car, walked around the back of the hotel and had his first look at the space-ship. It was impressive in a quiet, profound sort of way. The puzzle of its origin, coupled with its muteness, lent it a hallowed air.

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The thing was not as big as he'd imagined it to be; perhaps sixty feet long by twelve in diameter. Neither was it startling in design. It resembled nothing more than a monster shell with stubby fins extruding from its middle to its tail. The sheer simplicity of it was a strange feature for various reasons, over which Bradley pondered as he passed through the ring of guards and strolled around the vessel with Ronald Hume at his heels.

To start with, the shell-like casing had no projections other than the fins. There was nothing which would suggest a control cabin. There were no ports along its sides, no observation port in its nose, no rocket-tubes sticking out from its rear. In this first cursory examination he could perceive not even the outline of an airlock by which the occupants could enter or exit.

"This," he commented, "is a tough one. Offhand I'd say it's designed to fly blind, but that's absurd."

"A real, genuine space-ship itself is absurd, according to this world's notions," Hume pointed out. "Such things have only existed so far in the imaginations of novelists and astronautics pioneers. And this one doesn't resemble any of those I've ever seen described on paper."

"I guess not." Bradley stared at the vessel doubtfully. "I'd presupposed rockets, but it doesn't appear to have any." He wandered along to the tail. "Unless all those holes are rocket-tubes."

Hume had a look. The tail-end, he saw, was a disc twelve feet in diameter perforated with numberless holes, neatly spaced in orderly array. Each hole was about an inch across, but no two were the same shape. Some were slightly distorted circles, some ovals, some narrower ellipses and some ragged enough to resemble stars.

"Those orifices, I think," said Bradley carefully, "expel something. Note their geometrical arrangement and compare it with their own gross distortions. I'd bet that originally they were perfectly circular but have become worn into odd shapes."

"Could be," admitted Hume.

"Another thing," continued Bradley, moving back to the vessel's side. "Take a look at the general roughness of the surface. See how heavily it is scored from nose to tail. There's been some *mighty* long-term friction there! Maybe enough to have worn away an appreciable thickness of the shell." He peered more closely at the dull, grey metal. "The scoring almost resembles a grain and some of the lines cut damn deep. What does that suggest to you."

"Soft metal." Hume examined the scoring for himself. "But it's

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a million to one that whoever knows enough to build and launch a space-ship also knows enough to produce material tougher than anything we've got."

"Precisely! So the alternative is more likely. This heavy scoring is a sign of extreme wear which, in turn, is a sign of ripe old age." He rubbed his chin, frowned with his own thoughtfulness. "I've a queer feeling that this thing got lost on its journey from somewhere to somewhere else. That it has since wandered for many, many years, perhaps having dozens of narrow escapes from destruction. That its crew has long since dissolved to dust; and that eventually, by fortuitous circumstance, it drifted near enough for Earth's gravitation to pull it down."

"Making a perfect landing," put in Hume, pointedly.

"Yes; that's just what bothers me. It should have come in with acceleration, landing like a meteor. By all the laws, it should now be a shapeless hunk of metal. But it isn't. Why."

"Let's knock and ask whoever's inside."

"Thousands have knocked, hammered, catcalled, and generally caused enough noise to rouse a hibernating bear. We'll have to find an entrance of some sort. Failing that, we'll have to make one. Come on, let's give the thing a proper examination."

SO SAYING, Bradley produced an ordinary stethoscope, hooked the instrument in his ears. "We'll plot the hollows. We'll go along the sides and the top. You tap—I'll listen. We'll mark the areas of echo."

Starting at the tail end, he applied the cup of his stethoscope to the vessel's curved side, listened while Hume tapped. He moved the cup a foot forward, and Hume tapped again. Then another foot forward.

"Pretty solid," he grunted.

One third of the way towards the nose he detected hollowness, chalkmarked the point and moved on. Finally he reached the nose, where he suddenly noticed more distorted holes. They were small ones, scarcely large enough to admit a pencil, and they ran in a quadruple ring around the shell at a short distance behind the nose.

"Brakers and steerers," he observed.

Giving the holes no more than perfunctory attention, he started to listen back towards the tail, this time applying his instrument along a line a couple of feet higher up the side. At his second test point he paused, listened intently.

"That's queer!"

"What is?" demanded Hume.

"I heard a distinct click." He moved the cup around the potent spot. "Tap again, Ron."

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Obediently, Hume raised his hand in readiness to tap, but before he could do so Bradley ejaculated, "There!" He turned a puzzled face to Hume. "A definite metallic click, like the snap of a doorlock."

"Maybe they're coming out," Hume suggested. "Perhaps they're a form of life which regards five or six weeks as no more than one night's sleep." He pulled a face. "If they suddenly emerge, bellicose and eager for breakfast, I'll race you from here to Paris."

"Put your hand up to the same level as before," ordered Bradley, disregarding the facetious remarks. He listened intently through the stethoscope. "Now wave it to and fro in the direction of the ship's longitudinal axis." Hume waved as told, and Bradley said, "Yes, that's it!"

"That's what?"

"The click sounds whenever your hand passes over a certain spot. It's a double click, like something snapping on and off.

"O.K. I'll mark the significant point." Hume drew a chalkline round the area over which his hand had passed. As he did so, the sound came again to Bradley's ears—*click-click.*

BRADLEY moved on, selecting test points about a foot apart and as high up the curve of the vessel's body as he could reach. At the fourth point he got another double click in response to the motions of Hume's raised hand. Stopping, he considered the phenomenon. Concentration creased his forehead. Around him the guards lounged boredly, and grasshoppers chirped in the hot turf. Surrounding normalcy made the ship more than ever an enigma.

"Look, Ron," he said, "I've a notion I'd like to check. Let's go round to the other side."

Hume followed him round, ducking under the nose of the shell which jutted six feet above the grass. Here Bradley again applied his stethoscope. "All I want you to do, Ron, is walk slowly to the tail and back again. Don't tap. Just stroll there and back."

Listening-in while Hume solemnly promenaded to the tail end, he began to count as the other turned about at the tail and walked back toward the nose. "Thirty-one, thirty-two," he said as Hume reached his side. "H'm!"

"Well?" Hume demanded.

"The skin is dotted with reacting points placed at regular intervals," said Bradley. "Perhaps some type of photosensitive cells. I could hear clicks all the way along as you obscured them in passing." He looked towards the nose, estimated the distance Hume had traversed. "Roughly, there's one every twenty inches."

"Which means that this gadget

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is still operational and liable to spring to life at any moment."

"Not necessarily. It merely tells us that something still functions." Stepping backward, he craned his neck and scanned the rounded top surface of the mystery ship. "Get a ladder and take a walk along the top. We'll see whether these sensitive points are distributed all around the shell."

Borrowing a ladder from the adjacent hotel, Hume mounted it, walked carefully along the vessel's top. From his vantage point he looked down inquiringly.

"Is it doing it?"

"Yes—there's clicks all the way along."

Hume came down. "All right, Oracle, now why didn't it click during our first run along the other side?"

"I've been puzzling about that. Those sounds are exactly like the sharp clicks of relays snapping over, or of switches controlled by relays. Now, there are four basic types of relay: make-relays, break-relays, make-before-break, and change-over. When they operate they may close a circuit, open a circuit or switch circuits, according to their particular functions."

"Go on."

"Relays can be sufficiently delicate to respond to very minor impulses, and they can be set to function in predetermined manner. If these respond to photo-sensitive cells they'll operate in the presence of light or the obscuring of light, according to which way they've been set."

"I follow you so far," said Hume.

"Let us suppose that all these are make-relays set for darkness and therefore responsive to light. Then all these on this side of the ship, which is in full sunlight, will have closed circuits, and a passing shadow will cause them to open and reclose. The same applies to those along the top and partway down the other side. But those in the lower half of the other side are in deep shadow. They'll be in broken circuit position, but will snap over in the presence of light. All that'd be needed to make them click would be to shine a torch on the shadowed cells."

"Sounds plausible," Hume conceded.

"The hell of it is," went on Bradley, running thin, inquisitive fingers over the heavily scored metal of the vessel's bulge, "that there are no exterior signs of sensitive cells. Either they're incredibly minute or else they're of stuff so closely resembling the surrounding metal that they can't be detected. Whichever way it is, they've been built in with superb cunning."

"For myself," opined Hume, "I don't care a tinker's cuss if

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the ship does click. I don't care if it chimes like an eight-day clock and emits pink sparks. All I care about, and all the world cares about, is the problem of what, if anything, is inside this tin can."

"Which is where we're getting, even if slowly. To discover what's inside we've got to get inside, and to do that we've first got to find an entrance of which there's no outward sign. Otherwise, we'll have to bust our way in with the aid of heavy equipment that'll be difficult to handle up here." Putting away the stethoscope, Bradley commenced to stuff his pipe with rich brown tobacco. "Our best bet is to assume that an airlock will be where sensitive points aren't!"

"I get it." Hume was suddenly enthusiastic. "We search the surface for an area a couple of feet square, or even bigger. If there's hollow space behind it and the area produces no clicks, ten to one that's the lock." His voice trailed off.

"Well?" encouraged Bradley.

"Unless this gadget belongs to things small enough to use a lock of any size down to that of a penny."

"That's a chance we'll consider when all else fails." Lighting his pipe, Bradley puffed at it energetically. "We'll get inside this thing somehow—providing nobody stops us."

"*They'll* stop us, maybe." Bradley pointed his pipe-stem at the ship. "If they're alive—which I seriously doubt—they may be determined not to come out and equally determined not to let us in. Terrestrial atmosphere may be poisonous to them, or we may be unbearably repulsive to their alien minds. Or perhaps they're not even interested in us—they've landed for peculiar reasons of their own and are quietly biding their time to take off again."

"You think up the damnedest things," said Hume.

"I can do better if you enjoy having your back hairs raised." Bradley calmly sucked his pipe, spurted a thin stream of smoke. "This object gives me the same feeling you get when you knock at the door of an empty house. A small voice within you whispers, 'There's nobody here.' Somehow, you know you won't get an answer."

"Yes, I've experienced that feeling."

"So," Bradley continued, "we must also consider the possibility that the crew got out. They beat us to the draw, vanished on the very night of their arrival, and are now proceeding with whatever alien plan first brought them here."

"Hell's bells!" said Hume. "Let's get some help and get in by brute force." He made for the

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car, his companion following. "I don't like all these lurid possibilities. It's high time we got wise to whatever's going on!"

A HIGH SUN poured its rays over the vessel which still lay motionless on the sward of Douglas Head. Around it, under Bradley's direction, half a dozen workers poked and prodded. A microphone was attached to the ship's side; its amplifier stood on the grass beneath, and from it a thin cord ran to the earphones clamped over Bradley's ears.

Squawking querulously, a seagull alighted on the vessel, looked around with sharp, beady eyes, preened itself, squawked again and flew off as a man appeared at the head of a ladder and hoisted himself to the top. A couple of hundred feet below, the sea lapped and gurgled its amusement at this excitement over a mystery younger and pettier than some its own waters concealed. Its laughter boosted foamy sprays, and its salty smell was strong in the air.

After a while Ronald Hume came over and said, "How's progress?"

"Rotten!" Bradley told him. "The skin is lousy with points."

"Bang goes that theory," sighed Hume.

"Oh, we're not beaten yet. The door, if any, may be on the bottom, or what happens to be the bottom at present. We've no reason to suppose the vessel landed right way up. We'll have to roll it over to expose its other part."

"What umpteen tons of it? And with no grips on its surfaces."

"We'll make grips. We'll ram some steel pegs into some of those holes in the tail. We'll borrow a steam-wagon, hitch it to the pegs and to a loop over the nose, get a dozen men on the farthest side with the longest bars we can find. They'll lever as the wagon pulls, and although their weight won't be much, it'll do if we can turn the ship the few degrees necessary to expose the underside."

The most time-wasting item in this procedure proved to be the making of the loop, which had to be of heavy steel cable and had also to be spliced. But it was impossible to dispense with it—without it their efforts might do no more than to turn the vessel on its vertical axis, leaving the bottom still out of reach.

Five notes boomed from the Jubilee Clock across the Lake, and as if it were a signal the steam-wagon puffed and took the strain. The wagon faced directly downhill at a steep angle, with the cliff-edge uncomfortably near and the jeering sea two hundred feet below. If the cables snapped it would take the driver all he knew to avoid disaster. If they

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held, but he heaved a little too far, the vessel might roll completely out of its furrow taking wagon and cables with it to the ocean bed. It was a ticklish job. Driver and spectators alike exuded beads of perspiration.

"Now!" yelled Bradley.

The wagon went *whoosh*. Cables creaked as they strained, levers prised at the vessel's opposite side. The great bulk shuddered, climbed ponderously sidewise a full foot up the wall of its furrow, then slipped back. But as it slipped, it turned a couple of degrees.

"Again!" shouted Bradley.

Another *whoosh* came from the wagon and sent frightened gulls wheeling towards the clouds. Without mounting its furrow this time, the ship turned another couple of degrees and two top pegs sprang from their holes in the tail. Men picked up the pegs, hammered them into fresh holes angled farther back, hooked on the cable-eyes again. *Whoosh!* The ship reeled, turned, hesitated, turned again. Four more pegs sprang out and were hammered back.

"Once more and we'll do it."

Another cautious but powerful heave. The whole vessel edged around, and a cable attached to one of the pegs snapped with a loud twang. The broken end whipped outward, its strands splayed like a sweep's brush. More dew damped the driver's forehead,.

"That's enough," said Bradley.

Many hands unhitched the cables, piled them on to the wagon. Dexterously, the driver swung his machine in a swift left-hand turn which made it tilt precariously on the slope. In the same rush he got it off the slope and on to the road, reaching the level with unconcealed relief. As he made off, he pondered the futility of anti-litter laws as applied to Douglas Head.

Bradley donned the earphones, while Hume tested the newly revealed portion of the ship's hull. Due to the short arc of turn, this part was in deep shadow and Hume had to check it with a torch. With the beam focussed on the worn, scratched metal, he went to and fro while Bradley listened to the responding clicks. He finished, returned to the listener.

"Does she still click, Phil?"

"Yes."

"Ah, well, we can kiss that idea goodbye. What we really need is a crack cracksman—though I suppose he'd want knobs and dials to twiddle, and there just aren't any." He sniffed his disgust. "What'll we try next, oxy-acetylene or nitroglycerine."

"THERE WAS something different about those clicks,

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Ron," said Bradley slowly. "You did four trips along that portion and the effect was the same each time." He paused, mused a moment. "The count was irregular."

"In what way?"

"Look," pursued Bradley. "Each time we've checked those points the resulting clicks have sounded with monotonous regularity, which denotes even spacing. But this time there was a limp in the middle. I counted like this: fourteen, fifteen, *sixteen-seventeen, eighteen-nineteen,* twenty, twenty-one, and so on."

Hume grasped it immediately. "I don't think my pace varied, and in any event it's not credible that an unwitting variation would occur four times in precisely the same spot. Was there an abnormal gap between seventeen and eighteen? Yes. Then that shows they've been staggered with respect to corresponding points around the rest of the vessel. They've been spaced farther away from each other and nearer to their adjacent numbers."

"You've hit it." Bradley was smiling.

"A gap!" exclaimed Hume, his voice rising with excitement. "The promised land!" He turned to a moody little man who stood nearby, his lever still in his hand, his mouth agape. "We've found it, Sadface. Prepare to welcome the pythons from Pluto!"

Blinking, Sadface dropped his lever, shuffled backward. He spoke in a dull monotone.

"I'm not interested, see? I've got a wife and kids, see? Besides I'm late for work already." His backward shuffle speeded up; he turned, walked slowly, then rapidly. "I've got to get home."

Grinning, they let him go. Hume did two more trips along the ship's side while Bradley listened. They chalkmarked the points at which clicks number seventeen and eighteen responded. Then they stood away from the side and studied the result. The chalk marks made two lines about thirty inches apart running for three feet around the ship's circumference. Above and below these points the clicks sounded evenly, but in betweeen they were staggered to the limits of the chalk.

"Obviously it's somewhere within those markings," said Bradley. "And the microphone detects a hollowness in that area." He picked up a torch.

"We'll have a look."

Following the torch's bright beam, his keen eyes examined the rough metal surface while his eyebrows drew together in concentration. The very corrosion of the metal made its surface difficult to analyze; it was badly scored to varying depths in straight lines running fore and aft. Small flaky patches and some

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minute pitting added to the difficulty of examination. The fitment of the door was so masterly, and the surrounding surface so worn and spoiled, that Bradley still felt some scepticism when eventually his eyes discovered what appeared to be a thin straight line, as fine as a spider's thread, running along the circumference just inside the right-hand line of chalk.

Whatever had caused the longitudinal wear and tear upon the metal fabric had also driven thin slivers of metal across the line, breaking it at frequent intervals and, in two places, obscuring it for several inches. So fine and elusive was the line that neither man felt certain of its actuality. On a highly polished surface it would have been none too easy to perceive; amid this wear and corrosion its existence became fragmentary.

"Looks as if there's a line," confirmed Hume, when the other drew his attention to it. "Or is it just my fancy?" He stared hard. "Can't be certain. You know how easy it is to imagine lines when you're looking for them—hence all the arguments about canals on Mars."

"I'm pretty sure it's there," asserted Bradley. "We'll try exposing it by grinding the surface and clearing away the obliterations. A fine carborundum cutter would get rid of the smudges. Let's nip into town and see what we can dig up."

Using the car, they were back within an hour with the necessary equipment, and settled down to the task. The dull lead shell proved hard and tough; the electrically-driven cutter spun against it with a shrill, nerve-tightening scream. A couple of guards hung about and watched progress.

"Truth," commented Hume, as he relieved Bradley by taking a turn at the cutter, "is said to be stranger than fiction." He sounded slightly bitter. "In all such events as this, fiction's spacecraft opens their own doors, and people walk out of them and into them as easily as they go to church. But here we are with a real, genuine space-ship on our hands, and after several weeks we still know nothing about it and we're still sweating ourselves dry trying to get into it."

"We *are* getting into it, even if gradually," Bradley pointed out.

"High time, too!" The note of the spinning carborundum sank a little. Hume drew the cutter farther up and its tone rose to its original pitch. "It strikes me that this object is a cosmic *Marie Celeste*. I'm not even sure it came out of space. What if it came out of time? Mightn't it have emerged from unknown centuries with a full crew still in a state of suspended animation,

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still waiting for us to wake them up?"

"Oh, undoubtedly," Bradley responded gravely. "And its captain will prove to be Ann Sheridan reclining peacefully on a purple couch. You can be Prince Charming."

"Shut up!" snapped Hume. Then: "That's about the end." He removed the whirling carborundum, switched off its motor.

BOTH MEN gazed at the clear, sharp line now running down the ship's side. The line was an eighth of an inch wide, trough-shaped but shallow, and there almost in its center ran that other more elusive line they had been seeking. Their gaze followed it upward and downward, discovered where its ends right-angled and vanished into the all-concealing scores.

Switching on once more, they ran the wheel along the horizontal plane, found the line again right-angling at a point near the opposite chalk-marks. The wheel followed along a track parallel with the first, thus completing a large rectangle in the vessel's side. The thread of the door could now be followed all the way round the oblong rut.

"Rectangular," Bradley mused. "That simplifies matters."

"How?"

"I'd expected it to be circular. In that case we'd have been faced with something that might be hinged at any point around its perimeter, or might be an external plug locked in position, or an internal plug similarly locked, or an internal or external screw with a right-hand or left-hand thread. And that would mean that we wouldn't know whether the door hinged inward or outward, whether it pushed in or pulled straight out, whether it screwed inward or outward, or which way it revolved along its worm. Being rectangular, the screw problem is eliminated."

"Whichever way it's fixed, it's certain to be fastened on the inside." Hume looked half hopefully, half despondently at the oblong, somewhat as Alice must have surveyed the door to Wonderland. "If it's as thick and strong as the shell certainly is, we've got a deuce of a job on our hands. It'll be like trying to bust into one of the vaults of the Bank of England."

Turning his back to the ship, Bradley put his broad shoulders against the top of the rectangle, dug his heels into the turf and heaved mightily. He heaved again, the veins swelling in his neck with the intensity of his effort. Nothing happened. Shifting his shoulders to one side of the lock, he tried anew. No result.

"Do you expect to open it that way?" Hume was incredulous.

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"No! I'm trying to feel where it gives."

Joining Bradley, with his shoulders against the opposite side of the oblong, Hume went red in the face as he strove to thrust the ship clean of its furrow. The door resisted. Both men settled lower, got their backs to the bottom rim, their heads bent forward under the vessel's curve. Together they shoved. Something emitted a faint squeak.

The sound was very low and brief, but neither had any doubt that it had come from the door. They exchanged a glance, thrust violently again at the bottom rim, and again the squeak sounded. Scrambling outward, they persuaded two of the guards to take their places and heave. The guards got into position, took a good heel-purchase in the turf and thrust energetically. Bradley watched the small section of line visible between their shoulders.

"Damn it!" he said. "The thing's so fine that you can't tell whether it widens or not. The amount of give is microscopic."

"I am reminded of the burglar who spent six hours trying to pick a safe," Hume observed. "Then, as he was about to give it up in disgust, he discovered that it had never been locked." He rubbed his chin thoughtfully. "I think that door is not so much locked as stuck or jammed. A good bash in the right place might do the trick. And if it isn't locked it'll suit one of your theories, Phil."

"Which one?"

"That the crew had already skedaddled, leaving the ship empty."

"We'll see." Bradley motioned the guard to get away from the door. He studied the defiant oblong while he pondered the problem. "The thing'll open all right, providing we can bring enough pressure to bear along the line of its lowest rim. A tree-trunk as a battering-ram might do it, but it's impossible to land the blows at that low angle."

"We could get the wagon and cables on the job again. We could turn the ship until the door is upright and then wallop it to our heart's content."

"No; we don't want to take a further risk of rolling it into the sea." He looked lugubriously down the grassy slope. "They could have picked a thousand better places for a landing. It's as bad as the crest of Snowden. But look, Ron, it's a million to one that the door will give under the pressure of the vessel's own weight, eh."

"Pretty certain," agreed Hume.

"All right. Then we'll dig a notch in the ground just in front of the door, with the farther side of it at an angle to face the lower rim. We'll bed a heavy steel sheet

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in that side and use it as a base for some powerful jacks—ship's jacks or lorry jacks or whatever we can borrow. If we run the jacks between the steel plate and that bottom rim, and screw them up with a tommy-bar, something-'ll just *have* to give. If the jacks don't crack up they'll either bury the steel plate, lift the entire ship or force open that door—and the door is the weakest spot."

THE CAR SOON brought the extra equipment. By now the sun lay low over the horizon. The sea was calm and a darker blue save for a wide, soapy wake left by an outbound steamer. Sightseeing families with their querulous children had gone long since; in their place approaching twilight enticed courting couples who paused momentarily and stared idly at the ship.

Bored by inactivity, two of the guards volunteered to do the spadework, and under Bradley's direction set to with considerable vim. A V-shaped trench was dug and a steel plate embedded on one side of it. Four large jacks were positioned with their bases on the plate and their thrust-caps jammed against the bottom of the door of the vessel. Again the door squeaked as the jacks turned and built up pressure on the rim. *Turn-squeak, turn-squeak, turn-squeak.*

Pausing a moment, Bradley stood with tommy-bar in hand and examined the bottom crack. "It's widening, Ron!" He resumed his task at the jacks.

Gradually the door opened, protesting with every fraction of an inch it was compelled to move. A fever of excitement gripped the men as the gap in the shell widened, and they drove the jacks with eager haste. Eventually the rim had sunk a full four inches, revealing the complete thickness of the vessel's hull. Slowly it moved into the darkness of the interior, then emitted a harsh grinding sound as of strained and breaking mechanism. The grinding ended in a loud metallic crack, the door swung loose and the jacks fell over.

Nobody bothered to pick up the jacks, but all waited a moment. Hume stood, with tommy-bar firmly held, wondering what uncouth thing might emerge from the vessel's bowels roaring vengeance for the disturbing of its privacy. But nothing came out; not even a strange-smelling waft of alien atmosphere. Behind them, the sea slobbered and chuckled.

Bradley pushed at the freely swinging door, got it open, put his head and shoulders inside. Then he came out, looked at his watch and at the darkening sky.

"It's as black as the Pit in there, and pretty soon it'll be

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dark up here too. But I don't feel inclined to give up just because night is falling."

"Not on your life!" agreed Hume.

"O.K. Yet I doubt if our torches will last out, so we'll get a couple of inspection lamps and have a good look inside this thing."

Without any difficulty they obtained a pair of caged-in bulbs fed by cables running back to the hotel. It was now nightfall, and the sea had merged itself into the general gloom, but the lights of Douglas made a great crescent of glowing color sweeping to Onchan three miles to the north. Somehow, the news that the space-vessel was open had spread around already. Cars made a procession of light around the Lake and up the road to the Head. They parked in the hotel's drive, their headlamps focussed on the nearby ship.

People gathered and chattered outside the ring of guards, pestered them with questions. A few whose curiosity was limned with caution watched from a more distant vantage point where one could see anything worth seeing and yet have a good start on the rest should it become necessary. Two reporters and one photographer got through the cordon. Setting up his camera, the latter took a flashlight photograph of the open door. One of the reporters plied Bradley with questions while the other scribbled in his book.

MYSTERY SHIP ENTERED
MURPHY'S MOON-SHELL
THEORY DISPROVED

At ten-thirty last night, amid the wild excitement of unprecedented crowds, in the presence of armed guards and an audience of distinguished scientists, Manx experts Philip Bradley and Ronald Montgomery Hume entered the mystery ship on Douglas Head.

In an interview with our special correspondent, Professor Bradley revealed that the existence of a door in the vessel's side disposes once and for all of the moon-shell theory advanced by Professor Murphy, internationally renowned astrophysicist—

He ceased scribbling, tilted back his hat and said, "Well, Doc, what's inside?"

"We don't know. We've not yet been inside." Bradley blinked as another flashlight went off. "Now, if you gentlemen will permit us, we'll carry on with our job. You can depend on it that the Press will be kept informed."

"We'll be here," said the reporter bluntly, "even if we have to squat all night. Make it juicy for us, will you?"

"I'll see what can be done."

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Smiling, Bradley climbed through the door, Hume after him.

THE PAIR were silent as they held their lamps and examined the space behind the door. The sharply tilted floor cut straight across a section of the vessel's curve, while beside them swung the door, shaped to match the radius of the shell and, like the shell itself, full four inches in thickness. Great hinges, cunningly wrought, still held the door at the top, while down one side and along the bottom ran a series of arms and eccentrics engaging a quadruple catch along the lower rim. But the catches were smashed, an eccentric had fallen loose, and two of the arms were broken.

"See," said Bradley, "there's a cup-shaped handle which operated these catches through the broken mechanism." He bent down, studied the smashed locking system. "Those catches are what held us up, but the jacks made a mess of them. This hollow handle is queer, don't you think?" He fiddled with the object for a moment, then added, "I get it—the door is unlocked when this is pressed."

"A bolt or a turn-cap would be simpler," scoffed Hume. "I see no point in unnecessary complications."

"Which suggests that this complicated system was considered imperative," Bradley responded. "If this door was made so that it had to be pressed to unlock, it must have been because the intended opener could only perform the simple action of pressing and was not capable of a more involved movement such as lifting and drawing a bolt. But why the hollow, cup-shaped knob? I give it up—we'll find out, sooner or later."

He swung the lamp around, and his own shadow stooped over him like a gigantic djinn. There was a wall to the front, another to the rear, none opposite the door. On that side, where Hume was studying what stood before him, were two great cabinets with a sloping alleyway between them. The cabinets stretched from floor to roof; a tangle of heavily sheathed cables ran from their bases and turned fore and aft. Their sides were plain, unornamented, and totally devoid of meters, switches, controls or anything which would give a clue to their contents.

Climbing into the alley, Bradley found that it ran a mere couple of feet before connecting with the main fore-and-aft catwalk. He estimated the center of the latter as being six feet from the door, which meant that it ran along the exact middle of the ship. Before him, on the side of the catwalk opposite the alley

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leading to the door, stood two more cabinets resembling the pair between which he had just passed; and these, too, had a tangle of cables sprouting from their bases. But between them was a gap of only a few inches, leaving him no room to go through.

Raising his inspection lamp, he held it into the gap, and saw behind the two cabinets yet another one large enough to fill the entire space matching that behind the door. Not one was relieved by a dial or indicator of any sort; all were of the same dull, leaden metal as the shell of the ship. As he stared in puzzlement at the blank and baffling shape of his latest find, it emitted a hard, metallic click.

"There you are!" he exclaimed. "That's the relay assembly. It's as big as a rural telephone exchange. Someone outside has activated a cell and caused a relay to snap over."

Rising on his toes, Hume looked through the gap at the big cabinet. "It's a devil of a lot wider than the door," he observed. "How the blazes did they get it in? And how're we going to get it out?"

"It went in piecemeal and was assembled on the spot, by the look of it. We'll have to deal with it in the same way—strip it down and lug it out in bits." Bradley moved his lamp, drew the other's attention to the catwalk, the walls and the roof. "More puzzles. Have you noticed a lack of evidence of assembly? Not a rivet, nor a bolt, not a sign of welding. The body and its compartments might all have been moulded in one piece—but it's incredible that any science could mould a metal object so large, heavy and complicated."

"Everything about it is incredible. No air system, for instance. No airlock, but a mere door. Dammit, I'd have thought that even Saturnian Whosits would have to breathe." Hume turned, started along the catwalk towards the tail. "Most surprising thing of all is the absence of a welcoming committee. There's nobody on board. I know it somehow, can feel it in my bones. This ship is as deserted as a skunk's convention."

He sneezed violently, muttered something about the rock of ages crumbling to dust, and added, "It's just as I told you—a cosmic *Marie Celeste!*"

WITH HIS lamp held at shoulder level, Hume stopped suddenly, stared at the right-hand wall of the catwalk. His eyes were fixed on a spot a foot below the curve of the roof. He tapped the wall and listened. Then he turned around, examined the opposite wall, tapped that too and listened again.

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"Phil, I've got a notion that these walls are merely the sides of two more built-in cabinets. They don't sound particularly hollow. But these have got gadgets—look!"

He drew Bradley's attention to indicators on each wall. They were similar; both consisted of a rotating metal finger like the hour hand of a clock, inscribed around which was a circle marked with regular dots. Bradley counted the dots, found that each circle had forty-eight, and noted that on both walls the central hand pointed to the same dot. Since the dots were not numbered or marked in any way, and there was nothing to show which was first and which last, or which way round they were to be counted, it was impossible to tell how far the hands had progressed around their respective dials—even if that knowledge would have gained them anything.

Reaching up, Bradley touched a hand, moved it easily to an adjacent dot. There was no response from any part of the dead ship. He looked at the opposite indicator, noted that it was still in its original position and moved that one also, with abortive effect. Gently he restored both to their former places.

"Looks as if they've long ceased to function. They may be potent controls or mere recorders. We'll have a poke at them some other time—come on."

So saying, he stepped past the walls, propping himself on one against the sidewise tilt of the catwalk, and soon found himself in what both men instantly knew to be the ship's engine-room. Despite the fact that neither had the remotest notion what an alien space-vessel's engines might look like, the impression of bottled power was irresistible.

The room held a tailward-running mass of one-inch tubes, slightly flared at the rear end where they sank into the perforations of the tail-plate, narrowed at the forward end where they fed into the swollen rim of a great metal tire or ring-doughnut. In turn, the metal ring surrounded a small, compact array of apparatus from which many small conduits ran to the inside of the rim at points adjacent to those occupied by the driving-tubes. And at the front of this apparatus, sloping backward at a convenient angle, stood a control panel bearing an indicator matching the pair seen in the passage, with a number of small metal studs set in orderly rows. This indicator also had forty-eight points around its perimeter, and its hand was directed to exactly the same point as that chosen by the others. All the studs stood out boldly, none being depressed. Hume counted

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forty-eight rows of them with ten studs in each row.

"How about jabbing some of them, Phil? 'Let's see whether we can get the hang of how this thing works."

"What and take off? Not on your sweet life! Who can say whether this gadget is really dead and done for, or whether it's merely dormant? Lay off it, Ron —I don't want you lighting a firecracker under my seat!" He swung the light round to the catwalk. "We'll do things just as soon as we've a shrewd idea what we're doing. Meanwhile we'll go and have a look at the prow, eh?"

"All right." Hume left the control panel with itchy-fingered reluctance. Bradley was right, of course, but most people found it a temptation to discover what happened when one pressed a mysterious button. Musing, he bumped into his companion as Bradley suddenly stopped.

"Those look like the cell-leads, Ron." He pointed to raised veins of metal cunningly running over the shell from various points in its surface. His light moved, found more of them threading down the sides to somewhere behind the cabinets. "Twin lines carried in partially embedded conduits. But there's still no sign of the actual cells. How the devil did they manage to build them so craftily into the hull? And how did they manage to sink the conduits into hard, tough metal?"

"How? Who? What?" voiced Hume. "If questions were answers, we'd soon get educated in this tin can."

Puzzled, they moved on, past the entrance with its curved door and into the forward section. Here the catwalk ended in a chamber shaped like a sliced cone of which the ship's nose was the apex while the floor was the slice. And this place was another museum of alien cabinets.

Shuffling awkwardly along the slope of the floor, they surveyed the set-up in defeated silence. In orderly array, the cabinets stood in all shapes and sizes. Some were squat, some tall and narrow. All were firmly secured to the floor as if anchored against the ravages of time, the wrath of the cosmos and the inquisitive prying of men. All spewed cables of varying thickness and unknown purposes; all were blankly devoid of instruments, gadgets or anything that might provide a clue to their respective functions.

"These people," observed Hume lugubriously, "had a veritable mania for boxing things. I'll bet that even their houses were metal coffins without doors, windows or chimneys, and that they bought their beer in plain, unlabelled metal cartons." He edged between Bradley and a tall,

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imperturbable sarcophagus, moved towards the nose. "Before we can get to the bottom of a darned thing we'll have to lug out this lot somehow or other, tear open the casings and dissect their contents." His voice trailed off, paused, then came back with excited animation. "But here's something a damnsight different, Phil!"

STEPPING carefully between cold slabs of apparatus Bradley looked at what the other had found. The object of interest squatted Buddha-like in a space of its own right behind the ship's nose. It certainly wasn't another cabinet; rather did it resemble a distorted version of an automotive pillar-box.

It was a cylinder four feet high by eighteen inches in diameter, with a domed top in which several slots gaped like startled mouths all the way round and a few inches below the dome. Just inside the slots could be seen a mesh of fine, glistening wire. A third of the way down the body of the cylinder, spaced equidistantly around it, hung four many-jointed arms of metal, each ending in a ball the size of a door-knob. So long were the arms that the knobs just touched the floor.

But the most curious feature of the whole contraption was in its base; for here the cylindrical trunk fitted snugly into a square platform on two sides of which were mounted tiny but efficient-looking tractors. They were neat caterpillars with ingenious, heavy-duty treads engaging four sprogged wheels.

"This is quite a relief," commented Hume. "It breaks the monotony. This thing, you'll note, is designed to move." He sniffed, appraised it closely. "I was beginning to think that the ship was a purposeful expression of extra-terrestrial cynicism. You know the poem?" He recited with gusto. "Lives of great men all remind us we must hasten up to town, taking care to leave behind us nothing that is not nailed down."

"It's nailed down like the rest of the gadgets. Or it's fastened in some effective manner. Otherwise it would have been tossed all over the ship." Dropping to his knees, Bradley splashed light under the platform at the cylinder's base. "I thought as much—it's secured by heavy clips."

Still clinging to his inspection lamp, he lay down on his side, his legs bent in the inadequate space, his eyes keenly examining the platform's underside. Presently he shoved an arm between the caterpillar tracks, pushed and pulled. His efforts were futile. He tried again, grunting with exertion.

"It's no use, Ron. The clips are

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stiff and stuck. We'll have to hammer them free."

Getting up from the floor, he noticed a small knob projecting from the cylinder's midriff. He considered it gravely, then looked at Hume, who wriggled his fingers and grinned some encouragement. Frowning, he pressed the knob, half expecting it might be some sort of automatic release. The knob refused to sink in response to his pressure, so he tried to turn it, twisting it first one way and then the other, to no better effect. Finally he pulled it and, much to his surprise, it came out easily in his hand.

He found himself holding a small plug a couple of inches long and the thickness of an ordinary pencil. His torch beamed into the little hole from which the plug had come, and revealed a deposit of greyish powder, blocking its other end. Thoughtfully, Bradley replaced the plug, glanced at his wrist-watch.

"First thing in the morning we'll drag out this contraption and see what makes it tick—if it still does tick. We'll also get men on the job of unlimbering most of the other apparatus. How the blazes they're going to manage it I don't know, but the difficulties shouldn't be beyond solution by a couple of good engineers. Careful dismemberment and intelligent deduction should enable us to gain essential knowledge of this ship, and the motives of the people who built it."

"As well as where they've gone and why they've gone," Hume put in. "I certainly don't like the subtle way they sneaked off. It bodes no good. The sooner we find out what they're up to and put a spoke in their wheel, the better it'll be for everybody."

"I'm not inclined to take the alarmist view. This vessel strikes me as being a ship of the dead."

"Then where are the dead?" Hume shook a sceptical head, clambered along the tilted catwalk towards the entrance door. "No, there's something decidedly cockeyed about this set-up. If they're dead, the crew wouldn't simply evaporate. And if alive, they wouldn't skedaddle for a purpose no more harmful than to peddle trans-cosmic doodads. He who flees hath guilt in his heart. I don't like it!"

Reaching the door, he lugged it open, and a reporter promptly stuck his head in and said, "You don't like what?"

"Domineering vampire bats," snapped Hume.

The reporter backed hastily from the door. "You're kidding! There aren't any vampires in there?"

"You're asking me? Look at me, just look at me!" Groaning, Hume leaned listlessly against

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the ship's shell. "Can't you see I'm as white as a sheet? They've gorged themselves on me! Oh, the fiendish devils!" He waved a weak but dramatic arm. "Tell the world the dreadful news that if we don't sell our blood they're going to come out and help themselves!"

Then Bradley gave him a shove in the back and he fell out of the doorway. By the time he'd picked himself up from the soft turf, the reporter had faded as completely as the missing crew.

OFTTIMES, canards are accepted as being more plausible than truth. At the unearthly hour of four in the morning a bitter and frantic Bradley was out and about, interviewing local night editors, telegraphing and telephoning distant ones, urging contradictions over police teletypes, and nullifying official action to impose martial law in the Isle of Man and adjacent countries of England, Scotland, Wales and Northern Ireland. For two and a half hours he raced around in a sweat of apprehension, the cause of his nocturnal activity being a special night mail delivery of an official demand for all his data pertaining to a report then being set up in the papers, a report typified by the local sheet's great headline which read:

INVADING VAMPIRES' HELLISH DEMANDS

BLOOD WILL BE PRICE OF PEACE

By six-thirty, exhausted but full of relief, he had successfully killed the story. He returned to bed, first making a suitably vitriolic speech to the disconcerted "Professor Ronald Montgomery Hume, famous physicist of Liverpool University," who, "in an interview with our special correspondent," had "drawn aside the veil and disclosed to all the world the alien horror that lurked behind."

At ten o'clock they were back in the ship and laboring at the stubborn clips which gripped the mysterious cylinder. The clips refused to turn. Viewed end-on, from the only position in which they could be studied, they ap-

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peared as if made to turn sidewise, but repeated hammerings made it more than apparent that they were not to be moved in that plane.

Perspiration beaded Hume's face as he got off his aching knees and stood up. "Dammit, Phil, where's the sense of giving a thing movable tractors and then fastening it down so that it can't move?" He flung down his steel bar in sheer disgust; its clatter rang through the vessel. "It's contradictory and it's crazy."

"This thing comes free easily." Bradley frowned at the object of his companion's wrath. "I'm certain of that. It's hooked into those clips somehow, and it's fixed so that it can be unhooked with the minimum of trouble. Somewhere there's a key that'll unlock it, or perhaps a tiny switch—or maybe a certain combination of those studs on that panel in the tail end." Getting a grip on two of the cylinder's jointed arms, he pulled mightily. They remained as rigidly fixed as if the knobs at their ends were welded to the floor. He heaved at the other pair of arms, with no better result.

"You know," remarked Hume, adopting a chummy tone, "this reminds me of what happens according to the most reliable authorities. Giraffemen arrive from Alpha Centauri, open up, invite you to dine upon an array of strange, exotic foods. After which they explain carefully, in good English, just how everything works. Finally they present you with complete sets of blueprints of all their gadgets."

"Bah!" said Bradley.

"Me, too!" Hume endorsed, his tone rising, his voice becoming querulous. "Here we are, still messing around and getting no further. We're pushing and prodding without even knowing what we're doing, and bahing like a couple of sheep." Folding his arms across the domed head of the cylinder, he leaned his weight upon it. "Am I fed up with this whole bally—!"

His mouth gaped and he left his sentence unfinished. Gracefully the cylinder sank under his pressure, its arms swung free, and the whole contraption rolled down the slope of the floor with a juicy clicking of caterpillar tracks. Hume dodged hastily out of the way. The cylinder rolled a mere three feet, jarred lightly against an obstructing cabinet, and stopped.

"For Pete's sake!" exclaimed Hume.

STEPPING forward, Bradley examined the now exposed floor clips, then the four spots on the metal plates to which the knobs of the arms had adhered so firmly. In the center of the

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clips a small stud jutted from the floor. Picking up the steel bar which Hume had dropped, he pushed it experimentally towards one of the spots formerly occupied by a knob, found that he could not drag the bar away. It stayed put, firmly stuck to the floor. He rammed down the stud with the heel of one boot and immediately the bar came free. Trying the other three spots, he got precisely the same results. Then he had another close look at the floor clips.

"Say, Ron, this fixture was amazingly simple. The gadget was depressed and slid into position. When the pressure was removed it sprang up to full height, thus freeing the stud below its base, causing the arms to be gripped by the floor plates—probably electro-magnetically. At the same time the cylinder's locking clips engaged in the floor clips, thus securing the whole thing. After a fashion it was bound hand and foot, but all it had to do to burst free was to sink an inch and slide out of its fastenings." He stared at the other. "So why didn't it?"

"Why didn't it?" echoed Hume. "Why should it? Surely you're not suggesting it was intended to free itself of its own accord?"

"I wouldn't be surprised." Bradley stepped across to the silent mechanism, examined its back. There was a complicated series of tiny holes all down that side, and his sharp eyes noted that they matched the equally complicated array of pins projecting from the panel against which the thing had stood. It was obvious that the cylinder's forward rolling had broken its contact with an entire system of communication running throughout the ship, for the pins and their corresponding holes were nothing but a great multiple plug and socket. "This, I suspect, is the crew!"

"What!" Hume yelped.

"Look," went on Bradley, coolly, "there's no suitable projection on that cylinder by which it can be towed. Nevertheless, it is fitted with extremely efficient tractors. Ergo, it is capable of self-motivation. It has arms of a sort, though goodness knows what for, and those very fine screens within its slots look remarkably like ultra short-wave antenna. What other gadgets may be incorporated within its casing I can't even imagine, but it certainly was in communication with the whole of the ship; yet it's the only strictly independent piece of apparatus designed to function apart from the ship.

"The popular conception of an automation is a metal dinkus caricaturing the human form, but you know and I know that

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that is a mechanical absurdity. Operational efficiency dictates the shape of any mechanism. Ron, I think we're looking at our first real robot, and it's a highly specialized one at that!"

"Maybe," conceded Hume reluctantly. He gave a leery look to the object of their conversation.

"Somewhat similar things already exist," pursued Bradley. "For instance, there's 'George,' the automatic pilot. My guess is that this thing's a sort of super-George."

"I'll give way to you on all points," Hume said, "except one. He's designed to toddle along on his own. He isn't toddling. In fact, he looks to me as dead as any dodo."

"Aye, there's the rub. The gadget has ceased to work. But if we can find what's wrong, maybe we can put it right and discover how the thing functions. Let's drag it outside and take it along to the laboratory."

With the aid of ropes they soon maneuvered the heavy object up the slope of the floor, along the slanting catwalk to the door. Gently they swung it out, allowed it to settle on the turf where it stood gravely contemplating this green and sunlit world. With another rope around its middle, tied under its freely swinging arms, it was pulled up to the roadway, moving easily along upon its clicking tracks, its air deceivingly reposeful and sedate. Hume eyed it suspiciously, was unable to rid himself of the peculiar feeling that this buddhistic hunk of metal was merely biding its time. But he kept his thoughts to himself.

Returning to the ship, Bradley gave orders for the removal of all the apparatus therein. A gang of engineers were due that afternoon, and with them he was quite content to leave the problem of how to tear out of the vessel its all too solidly fixed cabinets. Climbing the slope to the roadway, he waited with Hume for the lorry they had summoned. The acme of imperturbability, George stood between them as if waiting for a lorry was the natural sequence to a tremendous flight across space. He'd have stood with the same philosophical patience had someone lent him an umbrella.

PUBLIC interest in the spaceship, greatly revived by the vessel's opening, died down again as a fortnight went past with no news more startling than that experts were examining its plumbing. People were no more than vaguely intrigued by obscure apparatus, and journalists soon found that to confer news value upon such enigmatic stuff was like trying to glamorize a lawn mower.

During those two weeks sweat-

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ing workers, made pungently vocal by the diabolical thoroughness of the vessel's builders, dragged out one cumbersome cabinet after another. A few smaller ones they pried loose; the big ones had to be cut free by long and tedious use of oxy-coal-gas flames. All of them were shipped to Liverpool for dismantling and study by big brains of the University, since Bradley and Hume already had more than enough on their hands —including George.

The latter still stood—and stood still—as if pondering the occult significance of his own navel, in Bradley's laboratory; and he registered no interest when the two came in and gazed at him for the hundredth time. Bradley had a small registered parcel in his hands and an expression of anticipation on his face. He put out one hand, removed the plug from George's middle and peered into the hole that sank into George's chest. The hole was now clean of the grey powder which formerly had blocked it.

"I just can't take him to pieces except as a last resort," said Bradley. "Once we got him apart he'd be a heller to put together again. It's best to try out everything imaginable before we start picking him to bits."

"You've tried plenty," Hume pointed out. "You can't get him to respond to colored light-beams, nor to sounds, nor to supersonic waves or radio impulses. Not to mention the fact that you've electrocuted him six times over. What's the program this time?"

"As you know, I dug out that grey powder with some scrapings from the surface of that hole and sent them away for analysis. The residue proves to be mostly a dust of barium sulphate with traces of lead, and the University report says it's believed that the hole originally contained a pellet of highly radioactive salts. They'd borne a resemblance to some of our salts artificially activated by bombardment in a cyclotron. Or they may even have contained a minute portion of radium itself. Those faint traces of lead suggest it, anyway."

"And where does all that get us?" Hume pulled worriedly at his lower lip, favored the silent cylinder with a doubtful stare.

"That's just what I'm going to discover. Look, Ron, there's little doubt that the ship utilized atomic power. In all likelihood, so does George. No amount of simple radioactivity would provide sufficient power to move him, and he can't grab power out of thin air. Therefore, he's got his own power plant inside him, perhaps a small atomic motor which can be continually fueled

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by a reel of fine wire. If we accept that thesis, we're now faced with the poser of why he needs a radioactive pellet."

"Oh Lord! groaned Hume. "I thought you'd solved that one."

"I've given it lots of thought, perhaps too much thought, but I've produced a plausible guess. There are some explosives which can be maltreated like so much dead material and be brought to life only with the aid of a detonator. Similarly, I can conceive of atomic power being gained only with the aid of a primer. A long-lasting and ever active primer such as a radium salt!"

"You should sell vacuum cleaners," said Hume, apropos of nothing.

Without bothering to counter this remark, Bradley opened his parcel, took out a small metal box with a simple plunger set in one side. Carefully adjusting the opposite side of the box against the hole in the body of the cylinder, he drove home the plunger. A pellet of radioactive salt slid from the box into the depths of the hole. Quickly he rammed the metal plug into the hole, sealing it.

"This depends upon the usual assortment of 'ifs'—if my guess is correct, and if radioactivity is an essential primer, and if the cylinder still works, we may get results."

THE ANXIOUS watchers were not long in doubt about the workability of their subject. For many strangely elongated seconds the cylinder rested on its tracks and quietly digested the contents of its innards. Then, suddenly and somewhat shockingly, it emitted a faint, high-pitched hum like that of a dynamo heard from a distance.

Hume and Bradley exchanged glances, the latter's triumphant, the former's wary. Unconcernedly, the cylinder hummed on, its note steady, unwavering, and only just on the verge of audibility. Then, with a swiftness that momentarily paralyzed the two onlookers despite their expectation, the thing whipped up its four knobbed arms, stretched them sidewise, and rotated its body.

It was only the trunk or cylindrical portion that revolved; the square base and its pair of tracks did not move. But the cylinder, its arms fully stretched, buzzed round and round like a ship's capstan. It made ten or a dozen complete revolutions before it changed its tactics at a speed which again caught the watchers napping. With complete decisiveness, the thing dropped its arms to its sides, clanked its tracks, made a swift half-turn and charged through the open door. Before the dumbfounded Hume and Bradley could collect their

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wits it had made another dexterous turn and was racing along the passage.

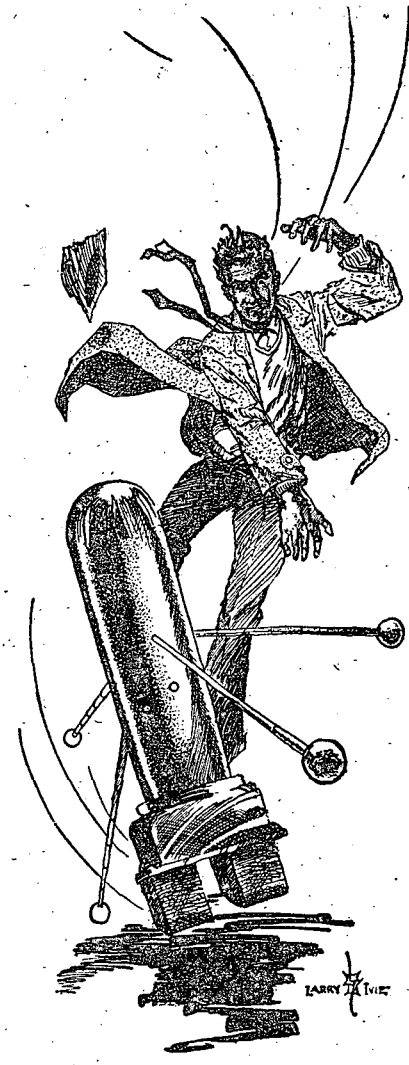
"Come on!" yelled Bradley. Springing through the doorway, he rushed after the fleeing machine, Hume pounding hard at his heels.

So speedy was the prey that it was all they could do to remain within ten feet of it, and so sharp and accurate were its turns, that their clumsier cornering threatened to lose them distance. As if making a desperate bid for freedom, the thing shot down the long passage, cornered, charged down another passage, cornered and entered the large front hall. Here it sped to within a couple of yards of the main exit, and at first Bradley thought it was going to hurl itself through the closed door. But it didn't.

Six feet from the obstruction it halted, extended its arms and revolved again. The pursuers got up to it, panting, stood and watched it while their minds dealt with the problem of what to do next.

"Get a rope," said Bradley. "We'll drag it back to the lab."

The words were hardly out of his mouth when a small, white-haired man came in through the main door, caught the outlandish spectacle of the two breathless men and the weirdly spinning cylinder. The newcomer paused just inside, catered to his own



curiosity while his right hand obligingly continued to hold the door ajar. An uncanny feeling of what was to come smote Bradley, and he roared:

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"Quick, close that door!"

But too late. Even as the other's unnerved fingers released the door, the cylinder ceased its revolutions, slapped down its arms and whizzed headlong through the gap. The door closed behind it, and Bradley lost precious time lugging it open once more. Cursing, he heaved the door wide. Unless he could grab and hold the escapee it was going to topple full length down the dozen stone steps opposite the door, and it might be smashed beyond repair. Frantically he jumped forward.

Out in the sunlight and the free air, the robot had extended its arms again, holding them rigidly in the horizontal plane and pointing to the four corners of the compass. It was not rotating, but its tracks emitted a low, oily buzz as it sped towards the head of the steps. Bradley yelped in agonized apprehension as the thing almost reached the critical point, then gasped when he saw it make another of its amazing turns and race to the left. Evidently its uncanny sense of obstructions in its path was equalled by its uncanny sense of pitfalls.

In its leftward run it came near to charging full tilt into the foothigh concrete edging of the approach, but at the last moment it saved itself with another violent swerve and rushed back towards the main door. This unexpected maneuver caught Bradley on one foot. He swung himself round in hot pursuit, to collide violently with Hume in full chase behind. The pair clutched at each other, then caught a glimpse of the pale, horrified features of the person who had opened the door, saw him hastily slam it in the path of the speeding machine.

But the latter had no designs upon the entrance. Within a few feet of the doorway it turned again, buzzed and hummed along the asphalt path in front of the building. It made another twist, came off the path and on to the grassy bank leading down to the street. The slope of the bank was such that the whole machine leaned forward at a precarious angle as it went down, but it did not topple. In seeming defiance of the law of gravitation, it tilted right over as it tracked down the bank, its four arms still outstretched, then came upright when it gained the level of the street.

Here it ceased its forward motion, but again rotated its trunk and arms. Several astounded pedestrians showed a sudden preference for the opposite side of the street, and a passing bus driver almost side-swiped a parked car as he leaned from the window of his cab to stare at the spectacle. Bradley and Hume

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pelted down the steps, hit the pavement and made for the robot.

IT MIGHT almost have sensed their coming, for immediately it ceased rotating and raced along the street, its arms still extended. Grimly, the two men chased after it. They knew in their hearts that there was little chance of outpacing the speedy automaton, but both clung to the hope that eventually it might trap itself or its alien mechanism break down.

At the bottom of this street ran the wide and busy Bucks Road. Its flow of traffic didn't worry George. He raced into it with utter disregard for the comfort and safety of other users, turned right, made a sharp curve around the bonnet of a private car and left its driver fuming. In similar manner, he indulged in close shaves which jittered the drivers of two more private cars, an Upper Douglas bus and a lorry. By the time he'd reached the top of the steep and treacherous Prospect Hill he'd increased his lead by another ten yards.

Upon the crest a police car caught up with him. The car roared along Bucks Road, blew a flood of cooling wind over the sprinting Bradley and Hume, overtook the robot. Side by side, robot and police car raced down the hill and out of sight.

"Phew!" Bradley stopped, mopped his forehead, drew in great gulps of air. "Let's carry on after it, Ron. We can take it easier—the police will have collared him by now."

He was wrong. At the bottom of Prospect Hill they found the defeated patrol car. An excited crowd milled around it. Further along Victoria Street more excitement was evident. Catching sight of Bradley, the police car's driver pushed through the crowd.

"That was the gadget out of the mystery ship, wasn't it, sir?"

"Yes, that was it," agreed Bradley.

"I thought as much. I recognized it from the descriptions in the papers. Well it got away from us."

"How?"

"We didn't want to smash it up and that made us careful, you see? We edged alongside it. The thing was going down the slope like a bat out of hell, and what with the twist in the hill and the crossroads at the bottom, we had a ticklish job. But Crellin leaned out of the nearby window and grabbed one of its extended arms."

"And what then?"

"It spun its arms and damn near dragged him out of the car. We slewed right over the crossroads to avoid a crash while the thing went clattering full pelt down Victoria Street." He gestured to the car. "Get in, sir,

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and we'll have another look for it. If we catch up with the thing maybe you'll know how to control it."

Bradley climbed into the car, thinking lugubriously that if he *had* known how to control George they'd never have started this frantic chase through sedate Douglas. With Hume and Crellin in the rear seat, the police car slid away from the curb, nosed through the crowd and purred down Victoria Street. Although the subject of their pursuit was completely out of sight, its route was easy to follow, for it left behind an unmistakable trail in the form of disturbed streets with excited pedestrians all on one pavement.

They reached the end of Victoria Street and came to the Jubilee Clock. Here possible routes splayed in half a dozen directions, but obvious signs of public disquiet were to the left, along the broad sweep of Loch Promenade. Swinging left, they bowled along that way, constantly scanning the immense width of the great roadway, the sunken gardens and the promenade proper. At a point opposite the Villa Marina, a chattering crowd hugged the rails between the prom and the beach. More spectators, some with binoculars, lined the balcony of the Villa, and still more thronged the steep pavements of Broadway. The focal point of observation lay towards the sea.

SCRAMBLING from the car, the four pushed through the crowd, which gave way reluctantly. They found themselves gazing across a sandy shore towards the incoming tide, which lapped and advanced irresistibly in long, foamy curves. A pair of parallel lines, two feet apart, cut through the soft sand to the water's edge: they resembled the marks left by the steel treads of a midget tank. And there, at the extreme end of the lines, with rising waters hungrily lapping around its flexible tracks, stood the robot. It was rotating on its base, its outstretched arms going round and round.

"We'll get it yet!" exclaimed Bradley. "The water'll stop it if nothing else will." He vaulted the rails and raced across the sand, the others following.

But they were still more than a hundred yards from it when the machine ceased its apparently pointless revolutions and, with a queerly impressive air of irrevocable decision, clanked boldly into the sea. Aghast, the four men stopped and watched. The slope of the shore was gentle, the water still shallow, and the robot submerged slowly, but it continued to move outward at fair speed. Gradually the eager ocean crept up to its middle, then

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to its still extended arms, at which point the vanishing machine started to leave a small wake on the surface. The arms made little splashes as they bobbed and dipped through the swells, then they disappeared.

Bradley groaned loudly as the water level rose to the slots, but the lonely figure still did not stop. Stubbornly it forged ahead, until finally the sun struck a dull sheen from the domed top of its lead-colored casing before a rush of foam hid the whole thing from sight. A long-drawn sigh came from the crowd of witnesses.

"Sea water didn't stop it," commented Hume.

"It may, when it's had time to seep inside." Bradley stared irefully at the chuckling ocean which had claimed his alien prize. "Evidently those slots don't provide a free channel to the interior mechanism. The whole thing must've been remarkably well sealed and water-tight to have withstood total immersion." He made a gesture of discouragement. "We'll get out the speedboat and search for it, just in case it's stalled—that's our only chance."

Wasting no more time, they rode the car to the main pier, commandeered a speedboat which swept them through the bay at a hectic pace. Their search was thorough but fruitless. With brilliant sunlight stabbing through clear blue water, the ocean bottom could be seen to a depth of twenty feet, but there was not the slightest sign of the missing robot.

Bradley gave it up. The triumph with which he had viewed the machine's dramatic animation was now replaced by a dismal sense of frustration and defeat. Somehow he felt that he'd had within his grasp the most potent secret of the age—and it had slipped like mercury between his fingers. So deep and moody were his thoughts that he made no attempt to avoid the spray thrown up by the returning speedboat; he was content to be soaked so long as he could ponder over what might have been.

"At least," said Hume suddenly, "we know now where the crew has gone." He jerked a thumb to indicate the depths of the sea. "Down there! They were even more alien than we suspected. They were aquatic, denizens of some faraway liquid world, and they made for water just as naturally as we'd make for land."

"After living completely waterless all the way here!" said Bradley sardonically. He shook his head, added, "Anyway, that's the end of that. We'll never hear of George again. All we've got left is that cryptic pile of junk in Liverpool and whatever's left in the ship."

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"It just can't be helped," Hume soothed. "I reckon that—"

His voice cut off as a tremendous blast sounded from Douglas Head and went thundering across the bay. The men in the approaching speedboat looked up at the Head, saw a great column of white vapor erupting from the ship's resting place. No words were needed to tell them and ten thousand others that the visitor from space had gone to oblivion in one fierce, disastrous explosion.

BRADLEY sat in Professor Reed's study in Liverpool and said: "And that's how the robot went, assuming the deuced thing really was a robot. The loss was most unfortunate—*most* unfortunate. Right on top of that ship blew itself to pieces, slightly injuring five engineers and damaging the adjacent hotel."

"How did that happen?" inquired Professor Reed.

"They were trying to dismantle those weird engines in the tail. According to the engineer in charge of the gang, they'd just disconnected some of the leads from the panel assembly to the tire-shaped object feeding the tubes when something spurted out of a tubular lead and blazed with such hellish ferocity that everyone raced for safety. It was as well that they did! They got away in the nick of time, for the whole vessel suddenly blew up with extreme violence. When I got on the scene I was faced with a crater around which had been sprayed the molten fabric of the ship."

"H'm!" Reed thoughtfully stroked his neat grey beard. "This frequent rotation of your robot was a most peculiar feature, don't you think? From personal observation, did you construct a theory to account for it?"

Fidgeting uneasily, Bradley ventured: "There was nothing cogent upon which to base a reasonable theory. What I did get, though, was a hell of a queer feeling about it."

"Go on."

"The way its arms went round and round, always before or after it changed direction, gave me a strong but ridiculous impression that in some way it was searching, searching—for goodness knows what." He fidgeted again. "Hume developed exactly the same notion, but expressed it better."

"What did he say?"

"That it made him think of pigeons circling while they get their bearings. Science doesn't know how pigeons take bearings, much less incorporate the same faculty in a machine."

"Our science might not," agreed Reed, smoothly. "But

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what other-wordly science could do is quite another matter."

"I realize that. I've pondered it a thousand times. It's one of those notions which are irritating because they're both plausible and potty. For what could such a thing be searching? What bearings could it want?"

"It is difficult even to hazard a guess," conceded Professor Reed. "It has been gone a couple of weeks now, hasn't it? Unless it has stopped, or at least paused on its way, it should have travelled a fair distance by this time."

He mused a moment. "I've some strange data which we've dug out of those cabinets. It is extremely interesting and highly suggestive, in fact it points to conclusions well-nigh incredible. But first answer me one more question. About those sensitive points built into the skin of the vessel; would you say they were solely photo-sensitive or might they not also have reacted to variation of gravitational strains in the cosmic field?"

"Ah, you may have something there!" Bradley leaned forward. "I've thought of that no more than vaguely. If we'd been instructed on the functional technique of the ship's apparatus we could have checked against the solar traverse, or the lunar for that matter. But without that essential knowledge we were unable to check up. We checked on photo-sensitivity merely by making relays snap over, but that's as far as we could get."

"Quite, quite." Reed opened a drawer in his desk, took out some papers and riffled through them. "We've dragged those cabinets, to bits, Bradley. Their interior apparatus was very wonderfully made; indeed, they were beautiful examples of scientific craftsmanship. They were controls and recorders of various kinds, all employing most ingenious and delicate relay systems based on master tapes of peculiar design. Here is a piece of such tape."

He handed over a long, springy strip of silvery metal two inches wide by six feet long. Examining it, Bradley found it light, tough and flexible. There was a tiny saucer-shaped indentation near one end, another and smaller one a few inches from it, and yet another, much larger than either, at the other end of the strip.

"We found four very big reels of such tape, and it took all the brains of a number of us finally to deduce their purposes. In fact, we had to call in some London recording technicians and some experts from the Automatic Telephone Company before we could get to the bottom of the mystery."

"You intrigue me," said Bradley eagerly.

"This ship, we found, was con-

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trolled by three factors, two known, one unknown. The two known factors were two of these ingenious tapes. The then unknown factor, it now seems, was your robot." His beard bristled with enthusiasm as he went on. "Unbelievable as it may be, the evidence shows most definitely that this vessel was deliberately launched upon an immense orbit, an ellipse so inconceivably vast that for all we know it may have encompassed much of this island universe. The guiding factors in one tape controlled the ship through the known part of the cosmos until its orbit was set, after which it coasted along that orbit, occasionally reacting when the proximity of orbit-deflecting bodies affected its sensitive cells either by light or by gravitation."

"It fits the facts," Bradley endorsed. "The ship looked as if it had experienced a centuries-long journey."

"Now, the second tape recorded what I might call the calculated future factors. It was another master control, the purpose of which was to make the ship blow out of its orbit and steer itself in immediately it entered a part of the cosmos in which those future factors operated. In other words, its function reversed that of the first tape; it was a homing device designed to correct long maintained aberrations and bring the vessel to its destination."

AND WHAT of the other two tapes?" Bradley found his pipe and sucked at it without bothering to light it.

"They were recorders. They noted the previously unknown factors encountered through the whole of the immense orbit, one on the outward journey, one on the inward. This vessel described a mighty ellipse during which it travelled for countless years, countless centuries. Heaven alone knows how long it travelled or how far it went, but those who built it knew thoroughly, and just as thoroughly recorded, their own section of the cosmos as it was then—and also calculated and recorded a part of the future cosmos coinciding with the vessel's timed arrival."

"The ship itself was proof that their inventiveness was far ahead of ours," commented Bradley.

"Their inventiveness knew no bounds!" Professor Reed declared, a note of genuine admiration in his voice. "Doubtless they first explored the cosmos with telescopes far more powerful than ours, but these were not enough. So they developed spaceships, which gradually improved and explored farther and farther into the void.

"Then at last they came up

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against the obstacle which faces all forms of life—the great handicap of their own mortality. Now they could build a spaceship capable of travelling for a thousand years, but alas! its crew could not survive one tenth as long. Were they beaten? No, they would not accept defeat! They built themselves a charting vessel, fully automatic and incredibly ingenious, and they made for it a one-man crew who came ten steps nearer to immortality—your robot!"

"Yes, the robot," Bradley echoed, wistfully. "I wish we'd been able to pick whatever he used for brains."

"It looks as if the robot had three prime functions," Reed went on, "and it was the most potent item in this stupendous epic. It controlled the actual take-off until the master tapes stepped in, and later it regained command from the tapes and controlled the actual landing. Between these two functions it slumbered for eons. With all their incredible ingenuity, the builders could no more than closely approximate the ship's cosmic destination, so upon the robot they placed the responsibility of landing the ship safely. And upon their master-tape they indented the sign necessary to revive the robot.

"But, as I said, the robot had a third function. Your story confirms it beyond all doubt." Reed took off his pince-nez, spoke slowly and deliberately. "Upon him lay the duty of returning to his superiors and leading them back to the ship. George has gone home to report!"

Bradley shot to his feet. "Ye gods! Are you suggesting that the ship came from *this* world, from our own world?"

"It is not a suggestion. It is a fact! We could hardly credit it ourselves, but four eminent and responsible astronomers have endorsed the diagnosis of another equally eminent. We submitted to this last expert the inward and outward tapes, our idea being that he might be able to deduce from them something that had escaped our minds.

"Look at that piece of tape in your hands. Note that its three indentations are of varying diameters and are sunk to varying depths. They are also biased off-center by varying amounts and their spacing is uneven. According to astronomical experts, all these peculiar features coincide exactly with the varying diameters, masses, planes to the ecliptic and mean orbital distances from the Sun of the planets from Earth outwards."

"This is really amazing!" Fingering the tape, Bradley found himself more than a little awed by the wisdom of its makers.

"That's not all," continued

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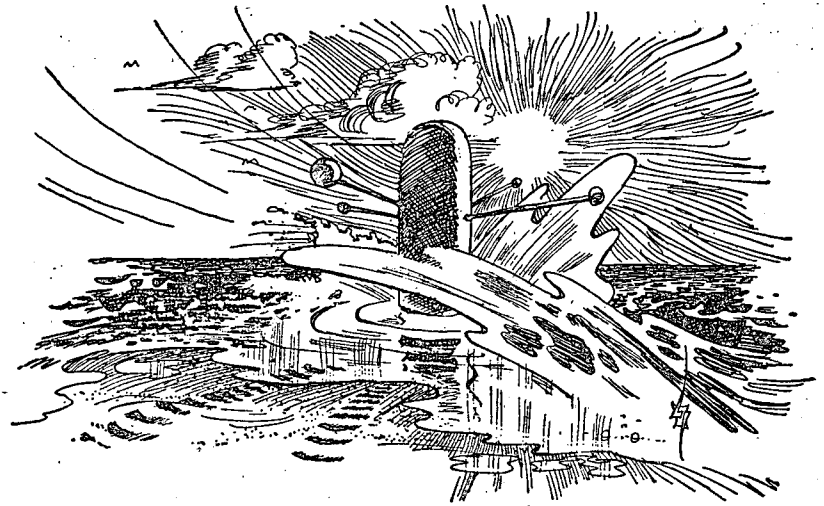

Reed. He replaced his pince-nez, consulted his papers, frowning to himself as his listener began to pace restlessly up and down the room. "The great time gap makes the inward tape differ from the outward, as might be expected. But there is one feature which is strange indeed—both tapes record a planet between Mars and Jupiter!"

Bradley abruptly ceased his pacing. A protest, he felt, was needed. "The implication being that the vessel left Earth before the Asteroid Belt was formed? Well, I can't believe it!"

"Nevertheless the characteristics of those two particular indentations correspond with modern theories of such a planet's size, mass and orbit. These were a wonderful people, Bradley, who have sent us a relic of the days when men were like gods. They've sent us an enormous chart of a cross-section of the cosmos—and we don't know which cross-section it is. I doubt whether we shall ever know. For all their mighty godhood, those people couldn't foresee the disruption of a now non-existent planet, nor their proxy's fate as he landed the ship in his last feeble flutter of radium-primed energy. They could not foresee our modern impotence, nor the great disaster which would plunge them into the depths from which we are still climbing." His tone became reverent. "But they were a great people, and very wonderful!"

Before Bradley could comment, the door opened and Hume came

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in. He was holding a copy of the evening paper.

"George again, believe it or not," he said. "He scared some Irish in County Cork. He emerged from the sea, gyrated on the beach before a hundred amazed spectators, then went back into the ocean."

"He's going home," declared Professor Reed, positively. He stroked his short beard. To him, the robot's lonely march was a grand and plausible saga—and he was right.

TWO MONTHS later George was rumored to have been seen near the Panama Canal, but investigators were never able to gain positive confirmation of this. The whole world watched for George; ships at sea sought news of him and men in lonely outposts wondered whether his mysterious trail would run their way.

Four more months rolled by before the robot made his final bow to the world of men. His leaden sheen came from the greeny depths of the secretive and laughing ocean, and his tracks clanked tiredly up the beach of a fertile atoll three hundred miles from Easter Island. Beneath the torrid sun, he stopped and rotated, his extended arms questing, questing, questing . . . for no man knew what.

Having confirmed his direction, he ceased to revolve and paused awhile as if in brooding thought. Then he made straight across the atoll, using native paths and deftly evading rare obstructions. A few Polynesians saw him as determinedly he toiled onward, and in them stirred strange ancestral memories that said he was taboo. They wailed in sorrow for a sorrow they did not know, and hid themselves from his sightless sight.

His route across the atoll made a direct pointer to distant Easter Island or to some submerged land in its vicinity. He paused again on the opposite shore of the atoll and stood with his tracks at rest while once more he faced the jeering sea. Perhaps he was puzzled by the sheer ubiquity of the ocean. He rotated again, just to make sure, and the ocean waited for him as if time and destiny were on its side.

Stopping his gyrations, his arms still widely stretched, the robot tracked slowly into the embracing waves. Parakeets screeched harsh protests as he sank into the vast waste of waters and still moved, more slowly, through groves of living coral.

The faithful servant was returning to the Lemurians' fathers.

THE END

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FA-61

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Jaslavj was an unusual man.

He happily worked long hours for low pay.

He never smoked.

He did not go out with women—

not with his looks.

No one ever even saw him eat.

Yet, there was gold missing,

and Jaslavj did have . . .

One Bad Habit

By ARTHUR PORGES

YOU see that, Macdonald?" With one finger Grayson jabbed the report as if it were something unclean. "Another sixty-three ounces short yesterday. That's like a ton of ordinary stuff. You've got to do something."

"Sure, Joe," the detective agreed in an abstracted voice, fascinated by Grayson's wagging cigar stub, retained in one corner of his mouth by some mysterious force. He wondered how the engineer managed to have always one inch of cigar there. Surely he must start or finish a smoke sometime. With an effort Macdonald abandoned the tantalizing problem, returning to the equally puzzling matter he was paid to resolve.

"Give us a little time," he said. "We've only been on the case four days, remember. In a big plant like this, it takes a while to get going."

"I'm losing an average of nearly two hundred ounces a week," Grayson moaned. "A leak that large shouldn't be too hard to find."

"You'd think so, but plant security did their best for several months with no luck. That proves it isn't so simple. Now it's just

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like I've been telling you. The stealing seems to be in your casting room. The first weighing checks are finished, and that's how it's beginning to stack up." His broad, florid face took on a stubborn expression. "When you've been an investigator as long as I have, you can damn near smell a crooked set-up, and the casting room reeks to me."

"But it just can't be," the other objected. "Our man came up with the same conclusion, which is why I bounced them off the case. That's the one place they simply can't steal from. Look, Mac; gold reaches the casting unit in three-hundred-pound ingots. After being melted and poured into molds, it leaves in bricks weighing fifty pounds each, and close to 1800 degrees in temperature. How can a thief get around that? If he nicks sixty ounces off the ingot—even granting he'd have time to do it unobserved—how does he get his loot past the evening shower, change of clothes, and search? There is no way, believe me. You can't get through that gate with sixty grains of gold, much less ounces." The cigar stub assumed a cocky angle. "Or does he put a fifty-pound, white-hot brick under his arm and vault the fence. Eighteen feet of barbed, 500-volt wire. It would be different if small amounts were getting out; there might be methods for smuggling a few grains. A foolish man might even swallow a little. But he'd have to be very stupid; this isotope is quite poisonous, and all of 'em know it. No, Mac—that cat won't jump." He removed the cigar, eyed it critically, and Macdonald involuntarily held his breath. Then Grayson rammed the cold fragment back into his mouth. The detective exhaled.

"Maybe so," Macdonald admitted. "But as of now, that's where the trouble seems to be. It isn't any place else. Sixty-odd ounces less came out of there Tuesday than went in, you can't deny the facts. Figures don't lie," he added, slapping Grayson's desk with a thick, heavily freckled hand.

"They don't *do* anything — they're manipulated," was the bitter reply. "And these don't make sense, man."

"No? The trouble with all you executives is that with so many yes-men around, you think you're always right. Now, actually, how much do you know about this weird character, Jaslavj, who runs the casting room? Are you so damned sure he's honest? Last time I brought him up, you jumped down my throat."

"That humpy little devil — a thief? Never. I know *him*, even if not much about him. When our last foreman left us flat for a deal with those crooks at Con-

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solidated, we needed a good man in a hurry. Jaslavj was doing some routine work in the ore-grinding section, and Thompson noticed he had a natural talent for gold technology. This isn't the stuff we had back in the Sixties; it's an isotope, and takes mighty slick handling at certain stages. Jaslavj is a whiz. I'll swear he can tell the temperature and composition of any melted alloy without a chemical analysis or pyrometer. And he denies having any formal training, even in Europe. Just a born expert on metallurgy."

"Yeah? And where is this miracle man from? The Balkans?"

"Damned if I know. Not that he's hiding anything. The guy's always willing to talk in those short, aimiable grunts of his. But he comes from one of those new central European grab-bag countries that popped up after the Sino-Soviet hassle, and got re-scrambled later. I never could get 'em straight. When I was a kid, geography made sense, but not any more. And why keep harping on Jaslavj? He hasn't any reason to steal. He doesn't even seem to care what we pay him." Grayson winked. "Confidentially, he's worth at least triple what he's getting."

"Of all the pirates!" Macdonald said, shaking his head reproachfully. "When we were in college, you used to raise hell about Big Business taking over the country; and here you are, chiseling on a poor employee, and a guy that doesn't know our customs, besides."

"That's malarkey," Grayson retorted. "If he's happy, it's not my business to stir him up. The guy has simple tastes; no bad habits; probably lives in a dive, and cooks his own slop. I know the type. By the time he's sixty-five, he'll be worth more than either of us."

"He's certainly an oddball. Just when did he take over the casting unit?"

"About three months ago."

Macdonald whistled softly. "That's mighty interesting."

"Yeah, I see what you mean," Grayson said, frowning. "We've been losing gold about that long now. But, dammit, Mac, it's impossible; I just told you why. Besides, we've hired others during that period."

"Couldn't he chip hunks off the ingots? He must be alone in there occasionally."

"Certainly he could; it's quite soft. But then what? He can't get it out. Not even a window to toss it through in case he had a pal waiting below. But if he did get some out of casting, that still leaves him inside the grounds. And nobody gets gold through the wire fence. It's double, with

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barbed coils between, and constantly patrolled. I learned the ropes the hard way. The guards are alternated in pairs, so that no two can buddy up and go crooked on me. Schedules are shifted without notice; and top men make surprise inspections of every post. As I said, a few grains now and then, maybe, but dozens of ounces—it's crazy, and yet . . ." He broke off, a worried look on his face.

"Yet it's going on; that's what you mean. Quite a puzzle." The detective hesitated, reddening a little. "In prison, men often hide stuff in small tubes, and, well . . . inside themselves, if you get what I mean."

"I know." The engineer's lips twitched. "Old stuff; we're wise. The doctor checks most of the men when they leave the plant."

"Suppose he's hiding it right in the casting room for some reason—or even elsewhere in the area."

"Not a chance. Every week we vacuum the whole works for dust and filings that float all over the place. We get a few grains from each room. Seems damn silly now, what with the stuff vanishing by the pound. But give the plant another search if you like. Me, I can't figure that much metal stashed away on the grounds."

"Doesn't sound very likely," Macdonald agreed darkly. Then, his eyes lit up. "Had a case once where we trapped a thief by adding a little radioactive tracer to the stuff—platinum, it was."

Grayson shook his head firmly. "We thought of that right away. My Chief Chemist almost had kittens. Most of our gold is for the A. E. C., and the rest for plating missiles. Any radioactivity would play hell with the instrumentation. And re-purifying the final product would require another plant, almost."

"Well," the detective said, looking downcast, "I'll have a little chat with Mr. Jaslavj—what a name!"

"Everybody can't be Mac-something," Grayson said, grinning. "He's a good man, Jaslavj."

"If my hunch is right," Macdonald said, striding to the door, "that's the understatement of the year. Anybody who can get away with several pounds of gold a day from this concentration camp isn't just good—he's a genius!"

"You're jumping the gun," Grayson objected. "There's no evidence that Jaslavj's your man at all." But the detective was gone.

Macdonald found Jaslavj in the casting room, where, if report was true, he put in many hours of overtime. He blinked mildly at the investigator, who stared in wonder, dazzled even through the dark glasses he had

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donned. The big induction furnace was uncovered, overwhelming the room with its brilliance and pounding heat. Jaslavj wore no goggles; he seemed indifferent to the glare.

Macdonald beckoned him aside, intrigued again by the man's grotesque proportions. He reminded the detective of an historical character called the "Little Giant" — someone vaguely involved with the Civil War. Jaslavj's massive head was set squarely on his shoulders; there was no neck to speak of. His eyes were brooding caverns; his face as craggy as an Epstein carving. Surely he was the most burly, chunky, blocky little man ever seen out of a Disney cartoon.

"You've heard about the missing gold?" Macdonald demanded.

"I hear," Jaslavj replied woodenly. An outsize ear, heart-shaped and hairy, twitched. The detective gaped, not even aware that he was staring. A horse or mule might be capable of such a motion, but for a man—this was really a freak.

"We've narrowed our search to this room," he added, eyeing the dwarf closely. "Have you ever seen anything suspicious in here? Some of the men acting funny, for example? Ingots chipped, maybe?"

Jaslavj smiled, showing horribly discolored teeth, very solidly set in his thick jaws.

"Men here long time," he said. "More as me. All honest, and good workers. You make bad mistake, I think."

"Do I?" He fixed the swarthy little man with a smouldering blue eye. "Just where were you born, Jaslavj — and don't you have a first name? A simpler one? This one is wearing out my tonsils."

"Sure got other name." He said something that sounded to Macdonald like "Harukanovitchni."

"Never mind; I'll stick with the other. This one would uproot my tonsils altogether. Now, once more: where's your home? Where do you come from?"

The foreman hesitated, then shrugged. "Dunno. Slovuria, maybe." His ugly face radiated innocence.

"You trying to tell me," Macdonald said harshly, "that you don't even know where you were born?"

"No, no." Jaslavj shrank under his savage gaze. "You no understand. Born in town of Slotnik on border of Slovuria and Rokosia, near Yugo-Blatnia. Border always changing. One war; two; then three. Russia, Germany, China. Near old Hartz Mountains. Was raised by Jaslavj family; fine people. They find me in field. I was little baby —only few days old. You see?

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How I tell? Mother maybe Slovurian, maybe Rokosian — or Yugo-Blatnian."

"—or Yugo-Blatnian," Macdonald murmured in a dazed voice, clawing his sandy hair. Sanity returned to his eyes. "Naturalization papers?" he snapped. "You here legally?"

"Sure. Six years this country. 'Merican citizen." He held up six hairy fingers to help the detective's understanding. There was pride in his bearing as he held his four-and-a-half foot body erect.

"Look, Jaslavj," Macdonald began, his mien threatening; but the other raised one hand in an imperious gesture.

His attention was deverted.

"Nelson!" he snapped, glancing at the blaze of light. "Nineteen seventy degrees. Down twenty amps."

His assistant tugged at a switch; the high electrical hum subsided slightly, and with an apologetic grin, Jaslavj turned back to the investigator, who was scrutinizing the narrow room.

At one end was the stack of ingots — eight-inch blocks absurdly small for their weight of more than three hundred pounds each—waiting to be melted. Between was the furnace with its massive bus-bars. One of the men was beginning to ladle liquid gold into molds; and at the far side of the room the same overhead trolley crane that hauled ingots to the furnace snaked glowing bricks out of Jaslavj's domain to the well-guarded cooling stacks in another section. Certainly, Macdonald thought grumpily, it didn't seem possible to pilfer gold here.

"Always lose a little in casting," Jaslavj volunteered.

"You're short a whole helluva lot more than that."

"Not here; you make big mistake."

"Yeah? We'll see about that. Something smells, by Heaven. When you've been in this game —" He stopped. Jaslavj wouldn't understand Macdonald's olfactory talent. He felt a sudden surge of annoyance with the dwarf. "If there's so much as a —a gold flyspeck, even, hidden here, I'll find it. You can make book on that!" He strode to the door.

"Fine," the forman approved, muddy greenish eyes untroubled in their deep sockets. "Search good. Nyotting wrong. If gold missing, must be other vorkers; not my men." He smirked after Macdonald's angry figure.

"Okay if me'n' Kelly take our breather now?" Nelson was at his side, wiping a sweaty face.

"Sure," Jaslavj said genially. "You go now. Kaminski back soon. Meanwhile I vork."

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Nelson waved a commanding arm at the other man, hauling an incandescent brick with tongs. "Let's go, Kelly; the Boss says it's all right." They left.

Jaslavj approached the furnace. He smiled into the flaming pool, greenish eyes unblinking in the intolerable heat and glare. He glanced at the waiting molds, and reached for a ladle. A practised dip brought the heavy metal scoop, now brimming with molten gold, over the furnace rim. Jaslavj paused, every sense alert, liquid fire raining from the poised dipper. Nobody in view; no footsteps nearing either door.

He saw in a dreamlike panorama the black, chill caverns of the Hartz Mountains, where sturdy, gnomish Kobolds added to their secret hordes of precious gems and rare metals, as they had done for milennia—long before man dominated the upper world.

His desire swelled to monstrous proportions: sight, sound, metallic odor, acrid in his nostrils—all titillated his raging ancestral lust.

Although there were twenty pounds of gold in the ladle, his bunched shoulder muscles raised it effortlessly to his mouth. He took a deep, ecstatic breath of anticipation, and drank—a long, gulping draught. Steam hissed from his leathery lips; a faint bubbling sounded in his stomach.

The vision sharpened. He saw the agate cups of molten metal filling the vault with flecks of light as they passed from hand to hand. Deep voices reverberated through giant caves, and there was booming laughter. Jaslavj yearned for a life he had never known.

Suddenly there were footsteps in the corridor. Jaslavj tensed, the glow in his eyes fading. He lowered the ladle, looked regretfully at the few remaining drops, then poured them back into the furnace. When Macdonald swept in with three of his husky operatives, Jaslavj was busilly filling a mold and chanting a minor-keyed song in a dialect that was mostly consonants.

The dwarf's native tongue Macdonald concluded acidly, sounded like some one gobbling peanut-brittle under water.

"Alone, huh?" the detective demanded, suspicion in his eyes. "I wanted a word with those men of yours."

"All taking break," the foreman said. "I don't slave-drive. We get job done hokay; good vokers. No complaint on Jaslavj, ever."

"Only one," Macdonald snapped. "A little matter of stolen gold. They tell me," he added, with apparent irrelevance, "that you never eat any lunch. Now why is that, I wonder."

Jaslavj shrugged. "One, two,

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meals plenty. Not used to more. Slovuria poor country. Five wars —" once again he held up fingers for the detective's benefit— "since 1965." A malicious smile touched his lips. "Also more healthy. 'Mericans eat too much." The muddy eyes twinkled as they fixed their gaze on Macdonald's paunch.

The investigator flushed. One of his men snickered, only to quail at a venomous glance.

"A model citizen," Macdonald sneered. "Don't smoke either, I hear. Or drink. I never trust a guy with no bad habits," he added grimly.

Jaslavj expertly brimmed a mold. He gave the detective an oblique scrutiny.

"Mistake again," he grunted. "Like drink—good strong one—hell, yes!"

THE END

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A tale of wonder, "The Forest of Unreason," by Robert F. Young, headlines the August issue of FANTASTIC.

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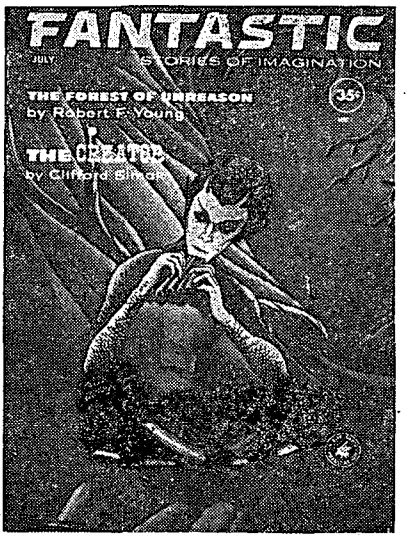

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